FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

DECEMBER, 1954

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Novel "Fireboat" Developed in Great Britain (Article on Page 1144)

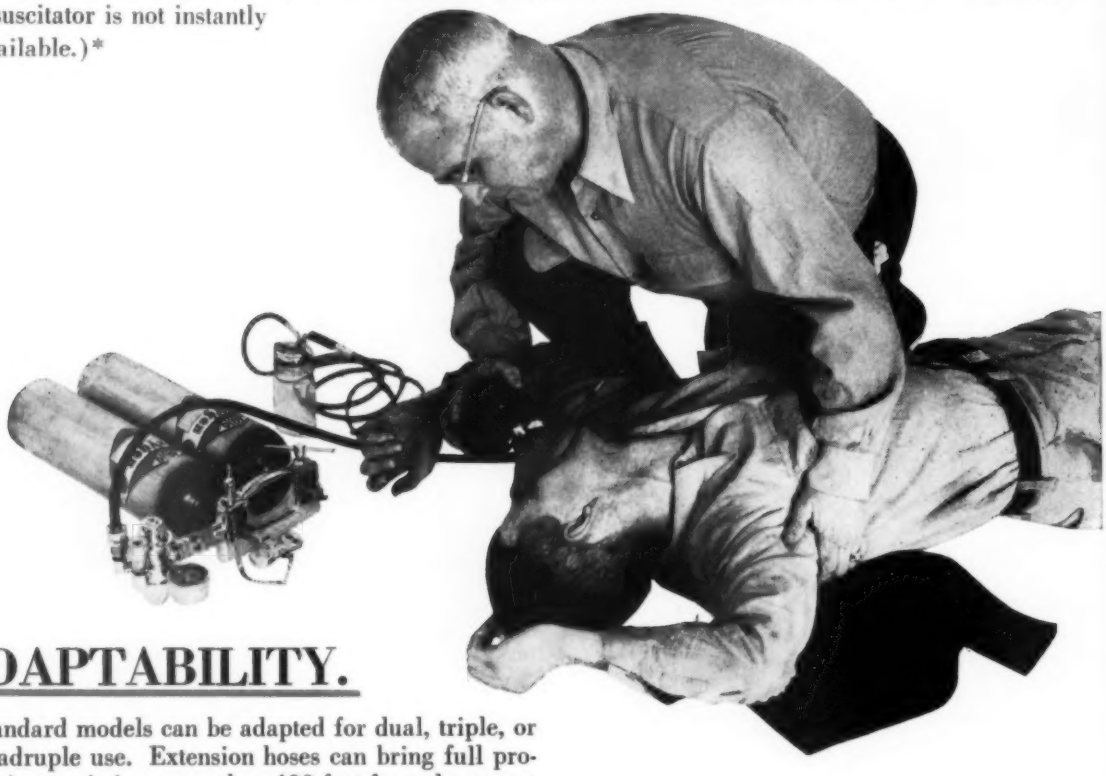
A CASE - SHEPPERD - MANN PUBLICATION

These Advantages Add Up!

SIMPLICITY. In breathing emergencies speed saves lives, and simplicity means speed. Emersons have it.

SAFETY. No instance has ever been recorded of injury from the gentle pressures used. Since approval by the American Medical Association in 1942 thousands of cases have been treated, all safely, including adults, children, and even newborn babies. An important safety factor is the suction phase, which gives vital aid to the circulation by helping the heart to fill normally.*

EFFECTIVENESS. Extensive medical research has found immediate positive-and-negative resuscitation to be the most effective life-saving measure in asphyxial emergencies. (Manual artificial respiration, however, should be used as first aid, if a resuscitator is not instantly available.)*



ADAPTABILITY.

Standard models can be adapted for dual, triple, or quadruple use. Extension hoses can bring full protection to victims more than 400 feet from the parent machine. Manifolds are available for Civil Defense protection.

Write for circular on the newest models.

****Write for free bulletins "Medical Reference on Resuscitation" and "A New Manual Method of Artificial Respiration."***

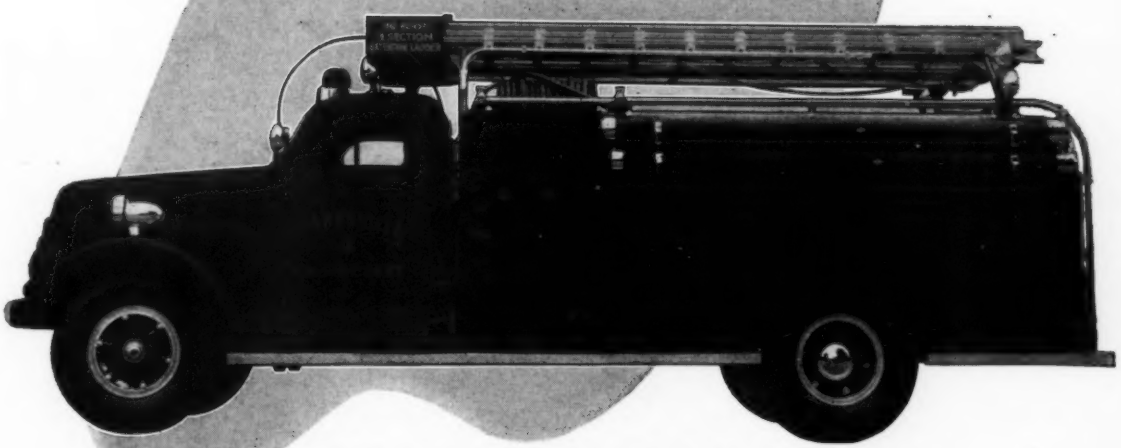
EMERSON RESUSCITATORS

Can Help You Save Lives

J. H. EMERSON COMPANY

32 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

RIGHT AT HOME!



This fine fire truck was built by Sharpsville Steel Fabricators, Inc. of Sharpsville, Pa. Equipment consists of a 750 gal. 3-stage centrifugal pump with heater jacket and 600 gal. booster tank. 400' of 1" high pressure booster hose, Rockwood booster nozzles and fog and stream nozzles. All this is protected by a Federal Q 2B siren with brake and switches and Federal's famous Beacon Ray light mounted on the cab.

Here is equipment that is "right at home" in its environment.

This fine fire fighter is complete in itself — each of the parts that have been assembled are "right at home" doing their particular jobs. First of these important duties is that of protecting the apparatus while it is on its way to the scene of an emergency — Federal's Q Siren and Beacon Ray light *get it there* safely! While this vital, costly equipment is hurtling along, traffic *must* be alerted — routes cleared. With a Federal Q Siren loudly screaming a warning for miles ahead and the Beacon Ray light's vivid red, stabbing fingers pinpointing the speeding danger — lanes open like magic, cross traffic is stopped — the vital unit has arrived safely, intact.

Let Federal show you how Warning Signals can protect your equipment. Write today for literature on the Q Siren and Beacon Ray Light.

FEDERAL SIGN and SIGNAL Corporation

Formerly: FEDERAL ENTERPRISES, INC.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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MEMBER
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Associated Business Publications

The Holidays 1954

- THERE IS NO TIME QUITE LIKE CHRISTMAS AND THE HOLIDAYS FOR REMEMBERING THE OLD AND NEW FRIENDSHIPS WE CHERISH SO HIGHLY—
- AND THERE ARE NO WISHES QUITE LIKE THE TIME-TRIED AND TRUE ONES—

A VERY MERRY
CHRISTMAS
AND A
HAPPY NEW YEAR
ON THIS
OUR 77TH SEASON

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York 18, N. Y., also publishers of *Water Works Engineering, Wastes Engineering*, etc. ¶Subscription price: United States and Canada, $3.50 a year; Pan-American and Foreign, $4.50; Single Copies, 40c. ¶Member of Audit Bureau of Circulations and Associated Business Publications, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 5, 1879.

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"Specialized Leadership"

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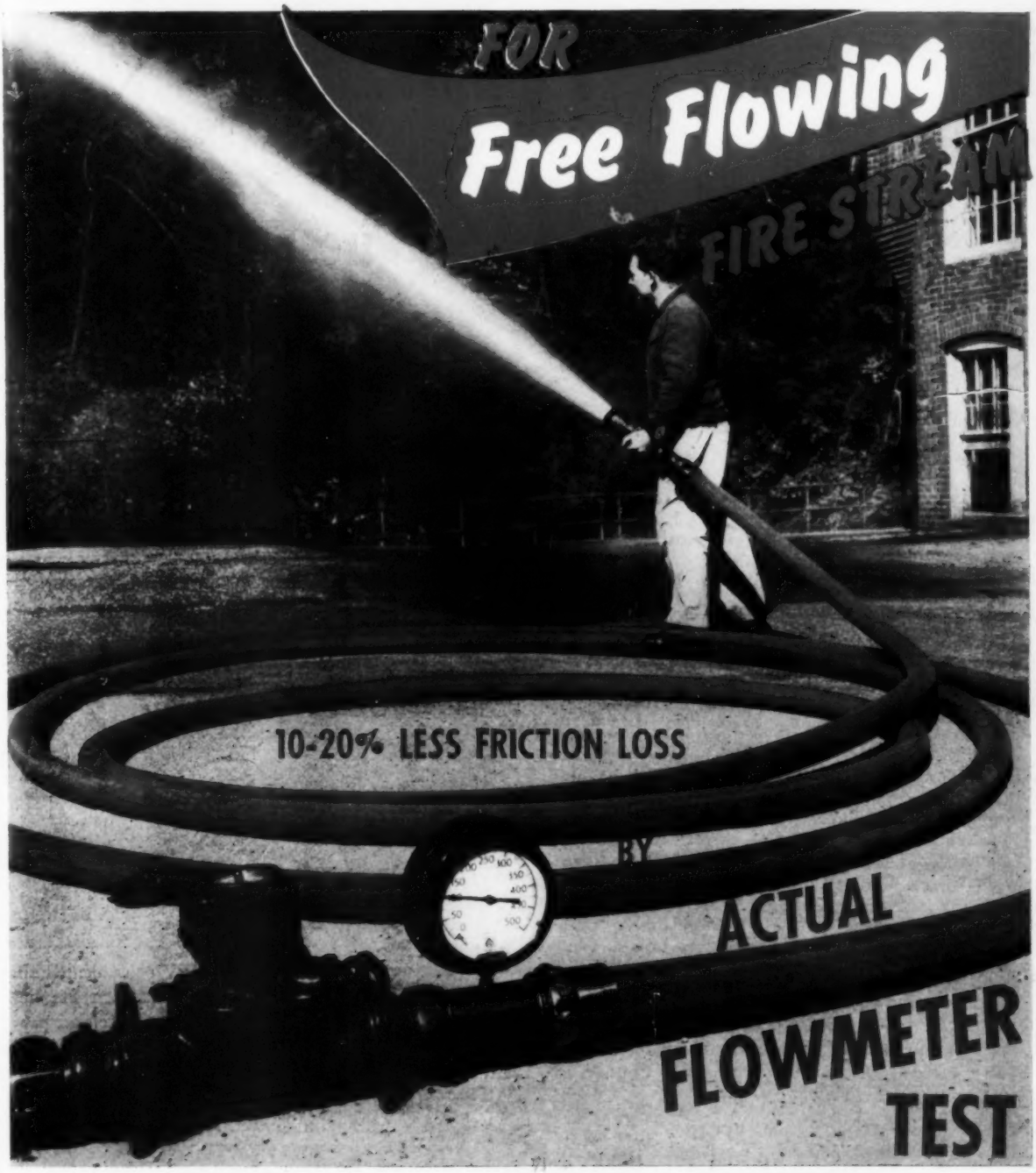

FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

SANDY HOOK CONNECTICUT

IN CANADA BICKLE-SEAGRAVE, LTD. WOODSTOCK, ONTARIO

Philadelphia protects its historic shrines and industrial might with

John BEAN HPV* Fire Fighters

Philadelphia — and the nation — cherish the city's many historic landmarks, among them Independence Hall and the Betsy Ross flag-house. Yet the heartbeat of Philadelphia is its big industry — the city ranks among the country's first ten manufacturing centers. So that fires can be controlled before they destroy buildings that are irreplaceable—or cause production shut-downs that can affect thousands—Philadelphia needs top-notch fire protection equipment — apparatus that is versatile, absolutely dependable and, above all, fast in action. For these reasons, Philadelphia's Fire Department, under the leadership of Deputy Fire Commissioner George E. Hink, added four John Bean HPV* Fire-Fighters.

Now, Philadelphia's firemen are armed with the triple fire-killing power of John Bean's true High-Pressure Fog. Delivered at 850 PSI pump pressure, it cools, it smothers, it isolates flames in seconds — and uses only 10% of the water needed with ordinary pressures. Either separately or simultaneously, hard-slugging Underwriters' approved volume streams are delivered when needed. Two great John Bean pumps and two proven methods of fire-fighting — both are combined in a single piece of compact, modern equipment.

Today's trend in fire protection is to John Bean HPV*. Learn what it can do for your community — write today.

Using John Bean HPV equipment, Philadelphia firemen fight stubborn fire in a warehouse storing rubber, excelsior, paper and jute. Fire was completely out in less than 6 hours. In another city, employing conventional apparatus, a similar fire took 6 days to control.

JOHN fmc BEAN

HPV — THE TWO-FISTED FIREFIGHTER *with both High-Pressure Fog and Volume Pumps

Can be mounted on most standard truck chassis

John Bean Division, Dept. 126, Lansing 4, Michigan **John Bean Division, P. O. Box 145, San Jose 3, California**

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

Easy up—with B. F. Goodrich Fire King

THE job of hoisting hose up a ladder can be slow and dangerous if you have the heavy, cumbersome, old-fashioned type. But B. F. Goodrich Fire King, because it is 18% lighter, can be lifted with speed and ease.

Fire King gets its lightness and flexibility from a chemically produced fiber. Used as "filler" cords—the cords that go around the hose and give it strength to take top pressure—the fiber gives Fire King 50% more strength. Ordinary hose is tested to only 400 pounds pressure whereas Fire King is tested to 600 pounds.

Just as important is the protection from cracks and blowouts in the coupling area caused by flexing, pressure, strain. In B. F. Goodrich Fire King this cause of hose failure has been eliminated. An extra layer of hard woven cords extends back from the ends of the hose protecting the tube from damage. As a result, not one single length of B. F. Goodrich hose with end protection has ever failed in the coupling area.

In the picture, Fire Chief Ted Brown of Elkin, North Carolina watches while two of the lightest members of his department take a length of Fire King up on a roof. Chief Brown says, "It's easy for our boys to get this Fire King up the ladder and on the roof in a hurry." Proof of Fire King's popularity with these firemen is the fact that it is always carried on top of No. 1 truck. They will never use the old hose unless they absolutely have to.

Next time you're replacing or adding hose, ask your BFG Fire Hose Distributor to show you a sample of Fire King. Compare it with your present hose for light weight, ease of handling and the end protection feature. Prove to yourself that this B. F. Goodrich hose is your best buy. *The B. F. Goodrich Company, Dept. M-347, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

hit of the year

ALL-NEW MACK

FIRE APPARATUS

Today's most modern fire apparatus, the all-new "B" Model Macks have won instant popularity in the brief time since they were introduced.

Handsome yet functional new styling... design that brings even greater simplicity of control... construction in the rugged Mack tradition... these are highlights of the new Mack firefighters.

Notable among their features is push-button control for both pump priming and pressure-volume operation. Even finer performance is provided by completely redesigned chassis with famous Mack Thermodyne® overhead valve engines.

Be sure to have a Mack representative show you how "B" Model Macks can bring to your department firefighting qualities that are unmatched by any other fire apparatus.

MACK MANUFACTURING CORPORATION, Empire State Bldg., New York 1, N. Y.

TRIPLE COMBINATION PUMPERS—500 TO 1250 GPM...SQUAD AND HOSE CARS...AERIAL AND COMBINATION LADDER TRUCKS

Belltown, Conn. B-85, 750 gpm triple combination pumper, 600 gal. booster tank, fire department air brakes. Semi cab.

MACK "B" MODEL DELIVERIES
OCTOBER 30th

North Patchogue, L. I.
Malvern, Pennsylvania
Wilmington, Delaware
Dover, Delaware
Pompton Plains, N. J.
Orange, N. J.
Lyndora, Pennsylvania
East Meadow, L. I.
Southwest Greensburg, Pa.
Wyckoff, N. J.
Rutherford, N. J.
Randallstown, Md.
Sandy Spring, Md.
Green Tree, Pa.
Jeannette, Pa.
Memphis, Tenn.
Arnold, Pa.
Lexington, Mass.
Westville, N. J.
Missoula, Mont.

Torrance, Calif. B-125, 1250 gpm triple combination pumper. 4-stage centrifugal high-pressure power takeoff driven pump. 3-man coupe cab.

Hempstead, N. Y.
Gretna, La.
New Kensington, Pa.
Lansdale, Pa.
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Kobe, Japan
Easton, Md.
Juarez, Mexico
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Libby, Mont.
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Hereford, Md.
Arlington, Mass.
Marblehead, Mass.
Lansdowne, Pa.
Youngstown, Ohio
South Amboy, N. J.
Belmont, Mass.
Silver Hill, Md.
Morris, N. J.

Garden City Park, N. Y. B-85, 750 gpm triple combination pumper. Side-mounted hose reels. Individual pressure gauges. 7-man canopy cab.

2810

Symbol of Quality-Service-Protection . . . for the modern fire fighter

The famous Midwestern Manufacturing Company trademark is your guide to the finest protective clothing that money can buy—garments that are specifically designed to help safeguard your men's life on every run—enable them to use their equipment to the fullest advantage. Superior quality, design, fabric texture and many exclusive features have made Midwestern Protective Clothing highly favored wherever men fight fires.

- **Exclusive Safety Features**
- **Tailored for Comfort**
- **Softer, More Pliable Materials**
- **Made of Natural Rubber**

We manufacture both rubber and fabric fire coats. In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. You can depend on the softness and flexibility of the high grade materials used to meet your most exacting requirements for lasting comfort and service under the most rugged conditions.

For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Fire Out-in ½ Second!

In recent open air tests under adverse conditions, CBM completely extinguished highly flammable lacquer fire in a record one-half second. Only one automatic ceiling type extinguisher was used.

FOR FASTER EXTINGUISHING ACTION – SPECIFY TRONA CBM

(CHLOROBROMOMETHANE)

CBM is the newest and most efficient fire fighting agent yet discovered. Used extensively by the U. S. Air Force because of its faster extinguishing action and extremely low freezing point, CBM has been proven considerably more effective than carbon-tetrachloride. Tests show that less CBM is decomposed into non-effective gases. More remains as a useful fire extinguishing agent. Because of negligible corrosive action and lower freezing point, CBM extinguishing units are light and compact. They discharge rapidly and completely at temperatures as low as –65° F, while the liquid nature of CBM makes recharging fast and easy. Its low toxicity and high density qualities make it far less hazardous than old-fashioned agents – the fire is out faster . . . the operator is exposed for a shorter period.

PROPERTIES

Characteristics	Clear, colorless liquid with a sweet oder
Boiling range at 760 mm. Hg 5-95%	66-68 deg. C
Freezing Point	below –65 deg. C.
Specific Gravity at 25/25 deg. C.	1.910/1.940
Pounds per gallon at 25 deg. C.	15.98
Flash Point	None
Fire Point	None
Molecular Weight	129.4
Solubility per 100 grams water at 25 deg. C.	2.4 grams
Solubility in common organic solvents	Infinite
Cloud Point (moisture)	below 3 deg. C.

Meets U. S. Air Force Specifications No. MIL-B-4394-A

Send for free booklet containing complete information on CBM

TRONA
INDUSTRIAL AND AGRICULTURAL CHEMICALS

A product of **ESTON CHEMICALS DIVISION**

American Potash & Chemical Corporation

3100 East 26th Street, Los Angeles 23, California

AMERICAN POTASH & CHEMICAL CORPORATION
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Please send me informational bulletin on CBM describing its superior extinguishing properties.

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TITLE_____

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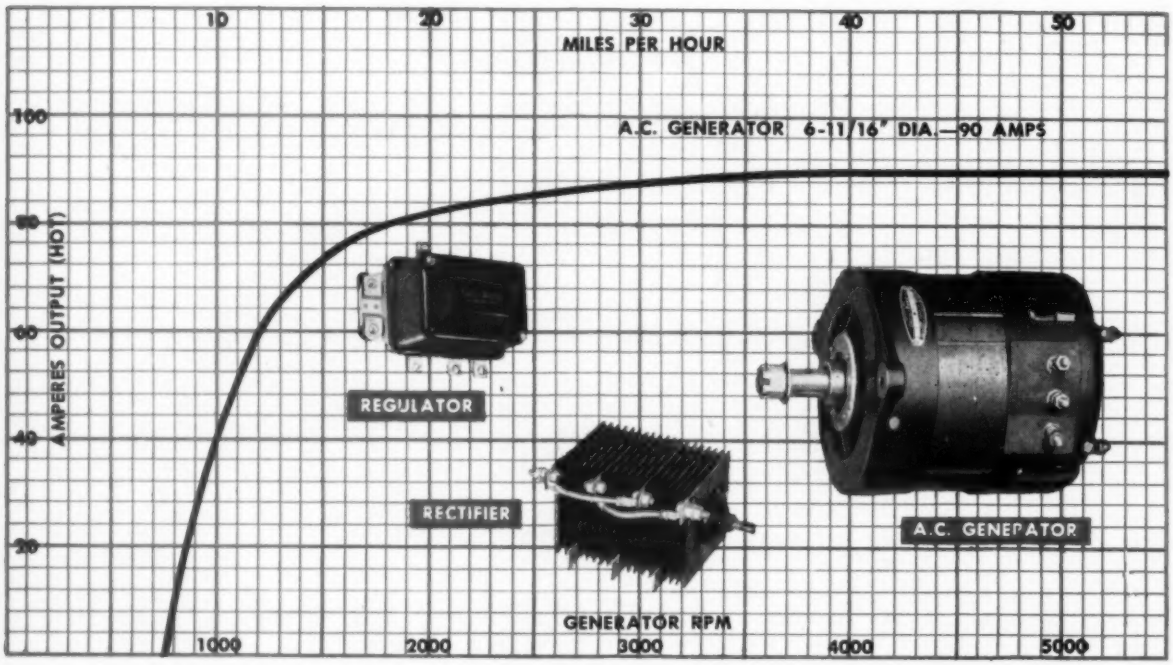
Power Packed and

HERE'S THE A.C. ANSWER TO EXTRA-HEAVY ELECTRICAL DEMANDS



DELCO-REMY

A. C. Generator, Regulator and Rectifier

Here's the answer for "problem" vehicles—Delco-Remy's new long-lived A.C.-D.C. charging system! It's specifically designed to meet the *extra*-heavy electrical demands of fire engines, police prowl cars, big city taxis—other vehicles equipped with two-way radio, floodlights or any extra electrical units. Ample current reserve picks up discharged battery quickly in operation. Delco-Remy A.C. generators are suitable for use at all engine speeds.

With output ranging from 30-40 amperes at curb idle and up to 90 amperes at higher engine speeds, the new Delco-Remy A.C.-D.C. charging system meets all electrical needs under the toughest operating conditions. Included in the new system is the A.C. generator, a matching regulator, and a rugged, dependable dry-plate rectifier which converts generator A.C. output to direct current.

Application packages complete with installation instruction sheets for popular makes of cars and trucks are now available. The conversion job is simple. For further details and application data, see your nearest United Motors distributor.

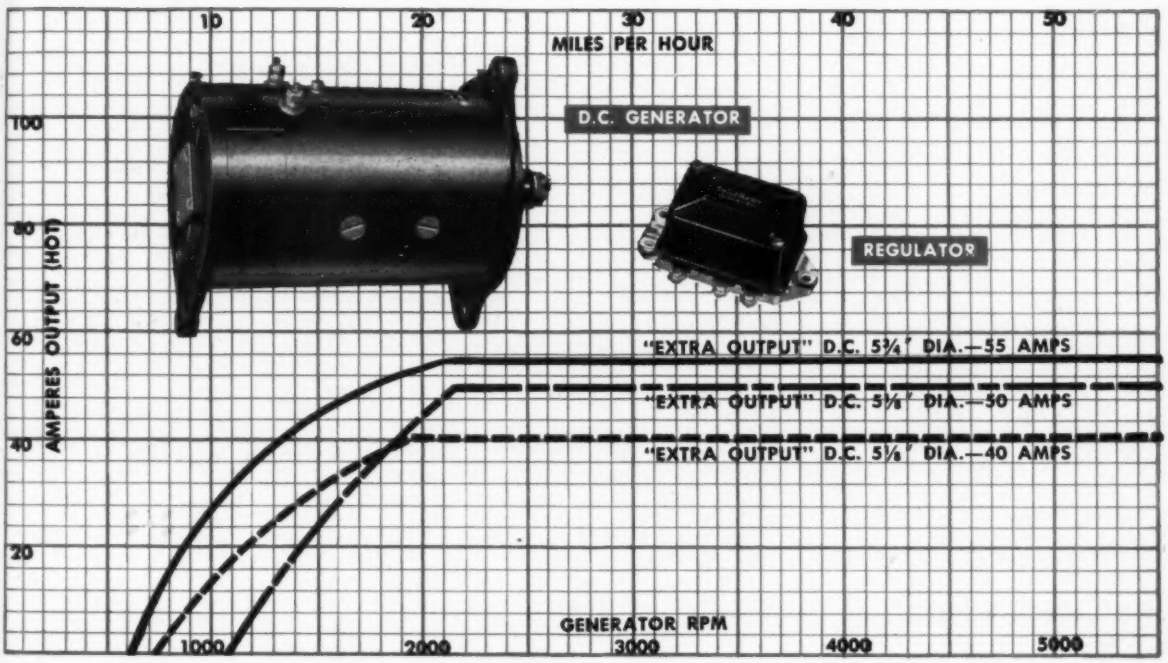
A GENERAL MOTORS PRODUCT — A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

WHEREVER WHEELS TURN OR PROPELLERS SPIN

Right for the Job

HERE'S THE D.C. ANSWER TO HEAVY ELECTRICAL DEMANDS



DELCO-REMY

Extra-Output D. C. Generators and Matching Regulators

Delco-Remy extra-output D.C. generators are an economical answer to the electrical needs of fire engines, suburban police cars, rural mail cars . . . other vehicles with additional lights, two-way radios, or other special electrical equipment in medium to heavy-duty service. Delco-Remy extra-output D.C. generators are low in cost, simple to install, economical to maintain.

DELCO-REMY 40-AMP GENERATOR has low cut-in, about 7 mph, charges from 11 to 17 amperes at curb idle . . . full output about 18 mph —for vehicles customarily used in heavy traffic.

DELCO-REMY 50-AMP GENERATOR has slightly higher cut-in, about 11 mph . . . full output about 21 mph—for vehicles customarily operated at higher speeds, with minimum slow driving.

DELCO-REMY 55-AMP GENERATOR has very low cut-in, about 6 mph; charges at curb idle from 20 to 30 amperes . . . attains full output at 20 to 25 mph—for vehicles customarily operated at low speeds with added electrical loads, such as city taxicabs and police cars.

For further details and application data, see your nearest United Motors distributor.

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION, ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

NEW

WARD LaFRANCE

Fire Ball Special

WARD LA FRANCE FIRE BALL SPECIAL
New 500 G.P.M. pumper, powered
by Chrysler Fire Power 183 H.P. engine.

A big city fire truck . . . priced within small community and rural area budgets.

Now there's a great new addition to the Ward LaFrance line of fire-fighting equipment! It's the Ward LaFrance Fire Ball Special . . . a completely new 500 G.P.M. pumper.

This Ward LaFrance Pumper is powered by the new Chrysler Fire Power 183 H.P. engine. It offers truly outstanding fire-fighting performance. Amazingly low in cost. The complete unit . . . body and chassis . . . is specially engineered and built by Ward LaFrance craftsmen to the same high standards of Ward LaFrance quality.

Regardless of the size of your department, you'll want to talk to the Ward LaFrance representative in your area. He'll show you how the new Fire Ball Special can provide the kind of protection your community needs.

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TRUCK CORPORATION

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Cable Address: "Wardtruck"

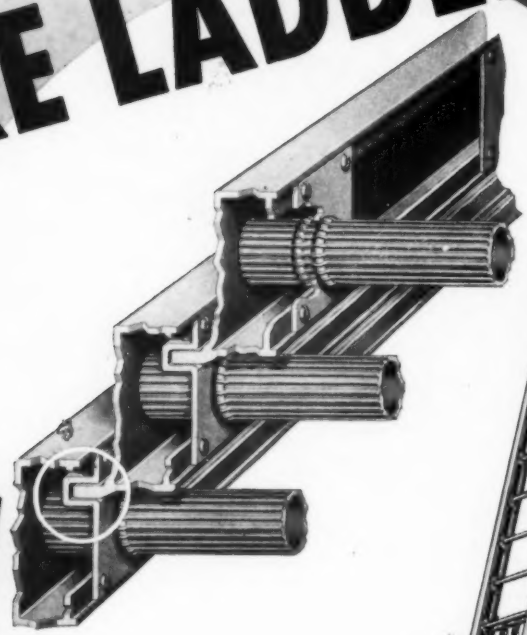
Fire Apparatus Manufacturers for over 35 Years.

THE SPOTLIGHT IS ON THIS NEW

DUO Safety FIRE LADDER

SERIES 900-A

WITH EXCLUSIVE TONGUE AND GROOVE CONSTRUCTION



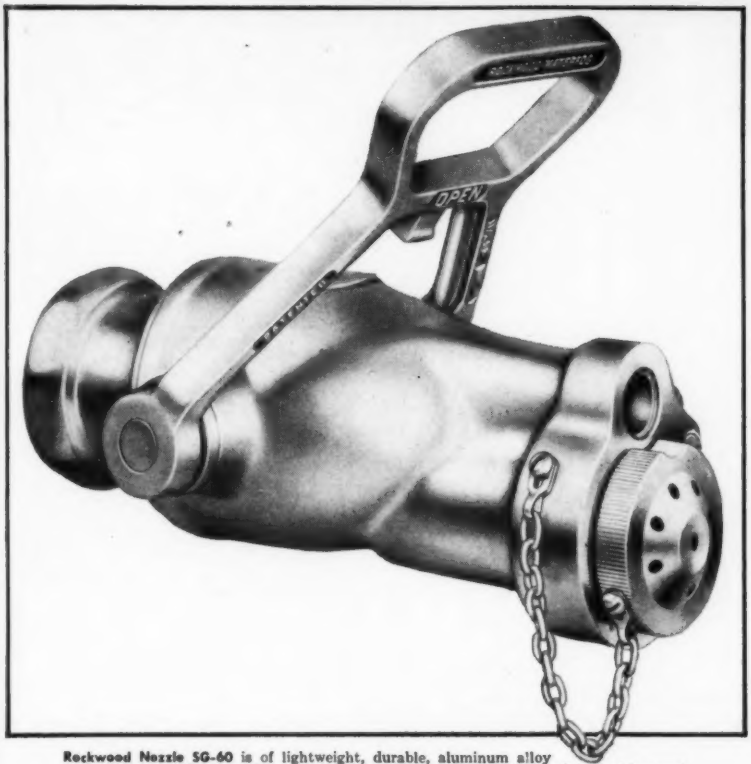
TWO SECTION SERIES 900-A

A BRAND NEW DESIGN IN THE FAMOUS DUO-SAFETY LINE

. . . and featured in the fire ladder spotlight is this new, outstanding development in aluminum ladder construction. It's Duo Safety's latest addition — the 900-A Series Fire Ladder which combines the strength and safety of Channel Rail construction with an exclusive tongue and groove design that firmly and securely locks the sections together without hooks or brackets. This outstanding structural arrangement prevents jack-knifing of the ladder — and — eliminates the possibility of finger-pinching! Series 900-A will add safety and dependability to your use of fire ladders — Write today for catalog page on this fine new ladder and others in the complete Duo-Safety line.

DUO-SAFETY LADDER CORPORATION

809 Ninth Street • Oshkosh, Wisconsin



Rockwood Nozzle SG-60 is of lightweight, durable, aluminum alloy with high-polished finish. Chrome plated bronze ball valve with synthetic rubber seat. All gaskets are synthetic rubber, all other parts are bronze, brass or stainless steel.

One nozzle fights fire 5 ways

This is the WaterFOG nozzle you can use to fight fire in 5 different ways.

It's Rockwood's "ALL-PURPOSE" SG-60 that makes unnecessary most special purpose nozzles. It discharges fire quenching High Velocity WaterFOG, Low Velocity WaterFOG (with applicator), FogFOAM or a solid stream of water or FOAM.

This Nozzle is designed to put out Class A, B or C fires faster, safer and more economically. A quick shift of the handle instantly provides the right type of discharge for any type of firefighting job.

Put this efficient, versatile Rockwood SG-60 Nozzle to work for you.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

High Velocity WaterFOG's solid cone pattern gives firefighter adequate protection from heat while quickly quenching blaze.

Low Velocity WaterFOG discharged with special attachment spreads umbrella pattern, smothering fire without causing turbulence to flammables.

FF extension discharging FogFOAM. Wide angle makes it possible to cover large areas at one time.

Shift to long range straight stream of water or FOAM can be made quickly and positively when required.

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
272 Harlow Street
Worcester 5, Mass.

Please send me your illustrated booklet No. 3-20-8 on type SG-60 WaterFOG Nozzle and other Rockwood firefighting equipment.

Name_____
Title_____
Company_____
Street_____
City_____ Zone____ State_____

first in fire fighting

WARD LA FRANCE

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CENTRAL
ST. LOUIS, MO.

AHRENS-FOX

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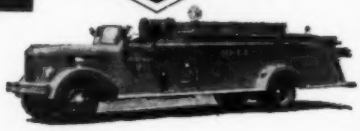
THE GENERAL FIRE TRUCK CORP.



Thibault

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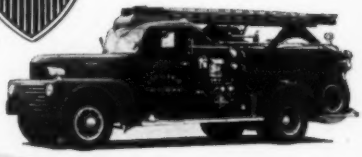
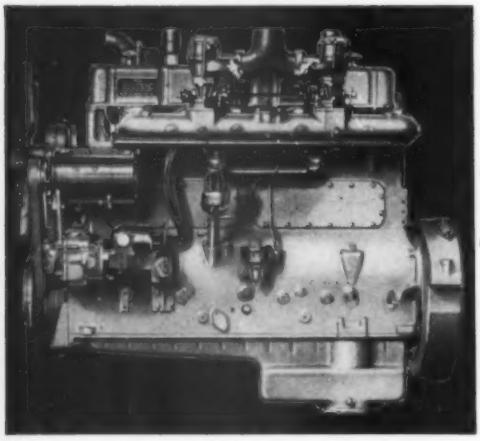


WAUKESHA MOTOR COMPANY
WAUKESHA, WISCONSIN
New York Tulsa Los Angeles



WAUKESHA FIRE FIGHTER ENGINES

145-GZB
High Output FIRE FIGHTER ENGINE
six cylinders, 5⅜-in. bore x 6-in. stroke, 817 cu. in. displ., with counterbalanced and vibration dampened 3½-in. 7-bearing crankshaft; twin carburetors; precision extra high capacity bearings; overhead valves with Stellite-faced exhaust valves and seats; removable wet sleeve cylinders. Arranged for full electrical equipment and all modern accessories. Send for Bulletin 1662.

221-R

Du Pont "X-12"

RENEWABLE TYPE

Flame Retardant

Does not change color, texture or tensile strength of most fabrics and paper

"Only Fire can tell the difference"

TURN THE PAGE

Now...a flame retardant that leaves color, texture and feel unchanged!

Du Pont "X-12" overcomes the main objections to fabric and paper flame retardants

Protection at no sacrifice in appearance! That's the big advantage of Du Pont "X-12" Renewable Type Flame Retardant. This new, effective chemical guards fabrics and papers against flame and afterglow—and retains the original properties of the material.

You can recommend "X-12" to hotels, night clubs, theatres, sports arenas, stores, exhibit halls, and to stage and display designers and builders.

You can tell them that colors stay bright and true, even in fancy prints. Fabrics don't stiffen up or feel waxy . . . only fire can tell an "X-12" treated fabric from an untreated one. "X-12" also gives maximum fire protection to virtually all types of papers.

You may be asked about this product and you'll want to be informed about its use and advantages. Please send the coupon below to Du Pont for samples of "X-12" treated fabric and paper.

E. I. DU PONT DE NEMOURS & CO. (INC.)
Grasselli Chemicals Dept., Rm. N-2539F
Wilmington 98, Delaware

Please send me full information about Du Pont "X-12" Flame Retardant.

Name _____ Title _____

Department _____

City or Town _____

Zone or County _____ State _____

"X-12"
RENEWABLE TYPE

"Only FIRE can tell the difference"
Flame Retardant

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

McKESSON & ROBBINS, INCORPORATED, protects its 90 distribution centers *Automatically*... gets better **FIRE** and **BURGLARY** protection and...

SAVES an average of **$7,000** a year for each center

a total saving of $630,000 annually!

Coast to coast, McKesson & Robbins, Incorporated, manufacturers and distributors of pharmaceutical products, guards its distribution centers against fire, burglary and other hazards by combinations of ADT Automatic Protection Services.

Analysis of costs shows an average saving of $7,000 a center over the cost of protection by other less effective methods—a total saving of $630,000 annually. McKesson officials find that along with this saving ADT Services give them greater security for their property, profits, and employees' jobs.

ADT Electric Protection Services guard every type of building, new or old, sprinklered or unsprinklered. The appropriate ADT Fire Alarm Service will detect fire and notify the fire department *automatically*. ADT Burglar Alarm Service will *automatically* summon police when burglars attack. ADT Heating and Industrial Process Supervision will *automatically* detect and report other abnormal conditions.

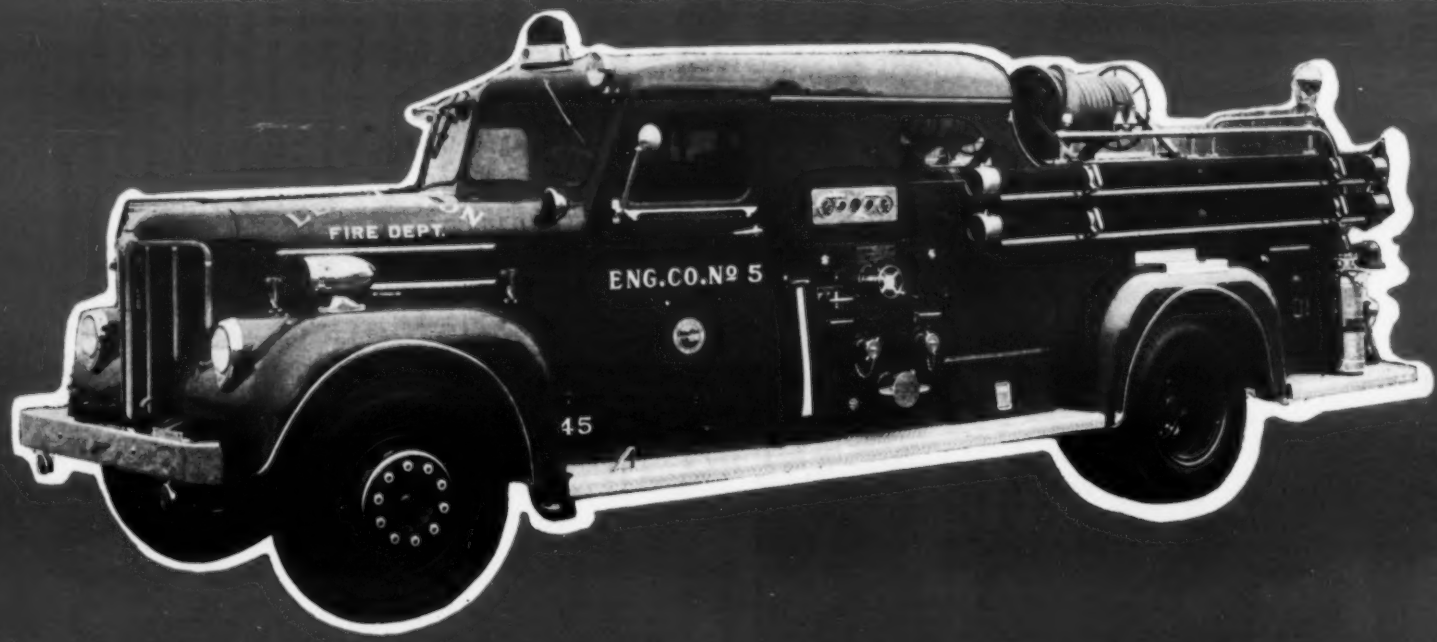
An ADT specialist will show you how combinations of these automatic services can protect *your* property. Call our Commercial Department if we are listed in your phone book; or write to our Executive Offices.

ADT

Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
A NATIONWIDE ORGANIZATION
Executive Offices
155 Sixth Avenue, New York 13, N. Y.

From the folks who put out Maxim apparatus -
to the folks who put out fires the world over -

Merry Christmas to all



MAXIM MOTOR COMPANY · MIDDLEBORO, MASSACHUSETTS

Five More E&J Resuscitators For Boston

Commissioner Francis X. Cotter

Asst. Chief Walter E. Crouch

In the progressive development of the Boston Fire Department for greater efficiency and community service, E&J Resuscitators continue to play a vitally important part. Under the leadership of Commissioner Francis X. Cotter and Assistant Chief Walter E. Crouch, five additional portable models have recently been placed in service. Five new Booster Companies using this equipment will provide even more extensive coverage and greater life-saving protection throughout the city than heretofore available.

The decision to provide additional E&J Resuscitators for emergency life-saving was based on the outstanding record of success established with E&J Resuscitators in the Department over a period of almost twenty years.

Lt. John Frongillo, aide to Comm. George Hellen, Comm. Cotter, Asst. Chief Crouch, and aide to Asst. Chief James Hoban watch demonstration of five new E&J Resuscitators by Capt. K. C. Arnold and Hoseman Frederick Toner.

A FREE DEMONSTRATION in your own Department is the surest way to get complete information on Resuscitator safety, effectiveness, medical acceptance, exact details of operation and construction and any other data you may want. If your Budget is s-t-r-e-t-c-h-e-d, the E&J Man can give you complete information on highly successful fund-raising methods and even supply a complete fund-raising Kit on free loan. To schedule your free demonstration, or request literature, just write or wire to Dept. 549-9 at the address below.

"First Name in Resuscitators"

E & J MANUFACTURING COMPANY

100 East Graham Place • Burbank, California

MAXIM MOTOR COMPANY • MIDDLEBORO, MASSACHUSETTS

OREN

OREN is proud to provide protection to the GREENBRIER

The Model 1600 Pumper shown above provides the finest in fire protection to the World-Famous HOTEL GREENBRIER at White Sulphur Springs, West Virginia. This hotel is noted for its fine facilities and for its "NOTHING BUT THE *BEST*" policy for its guests. THREE (3) similar units recently delivered to the CITY OF CORPUS CHRISTI, TEXAS, with many new features and trim for 1955. Details are available on your request from . . .

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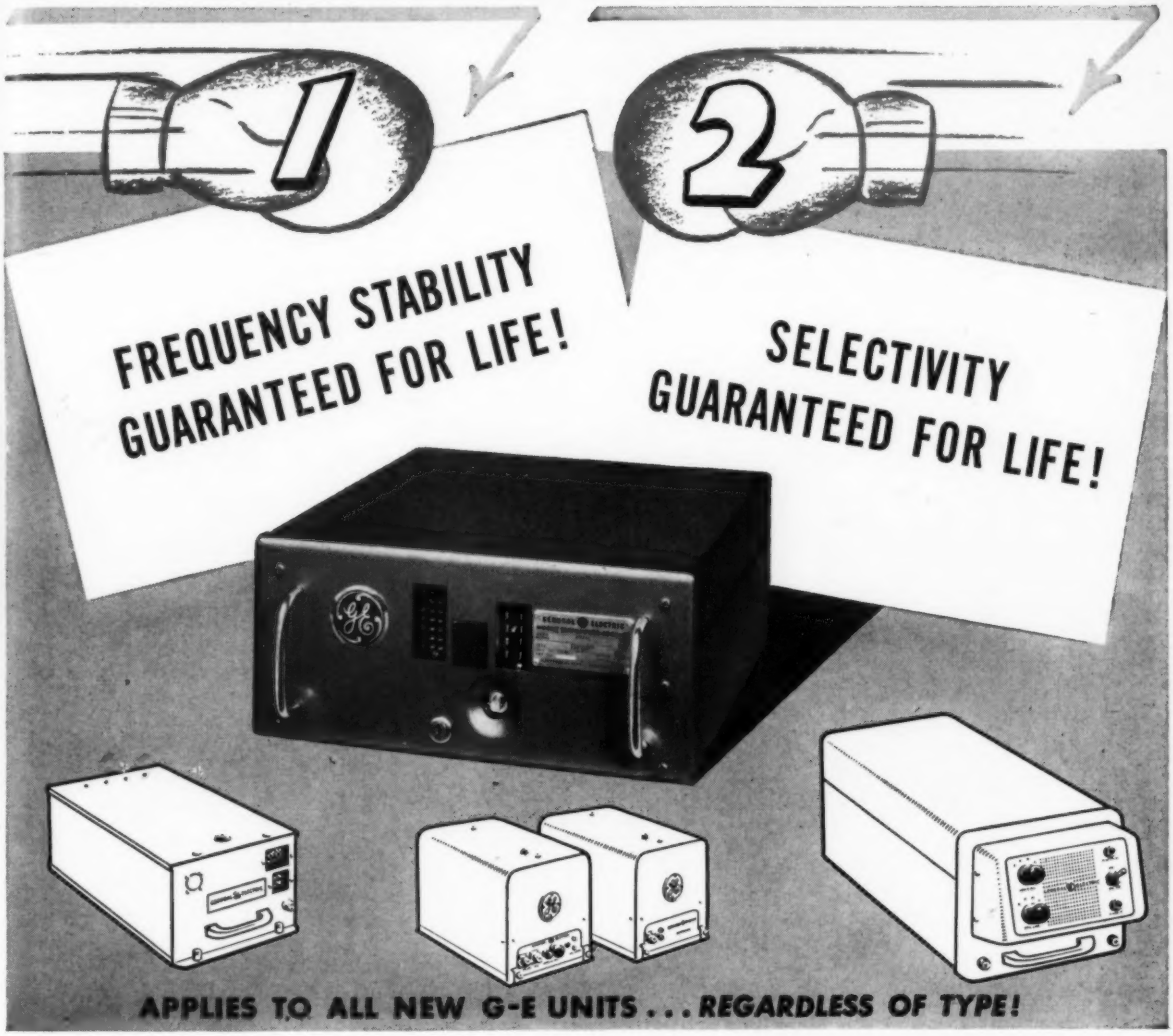
OREN ROANOKE CORP.

ROANOKE 2, VIRGINIA

GIVE YOUR 2-WAY RADIO SYSTEM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Guaranteed Selectivity with new multi-coil IF transformers guards your system against interference 24 hours a day! *Guaranteed Frequency Stability* clearly interprets the superior value of G-E crystals. Both, go the lifetime limit!

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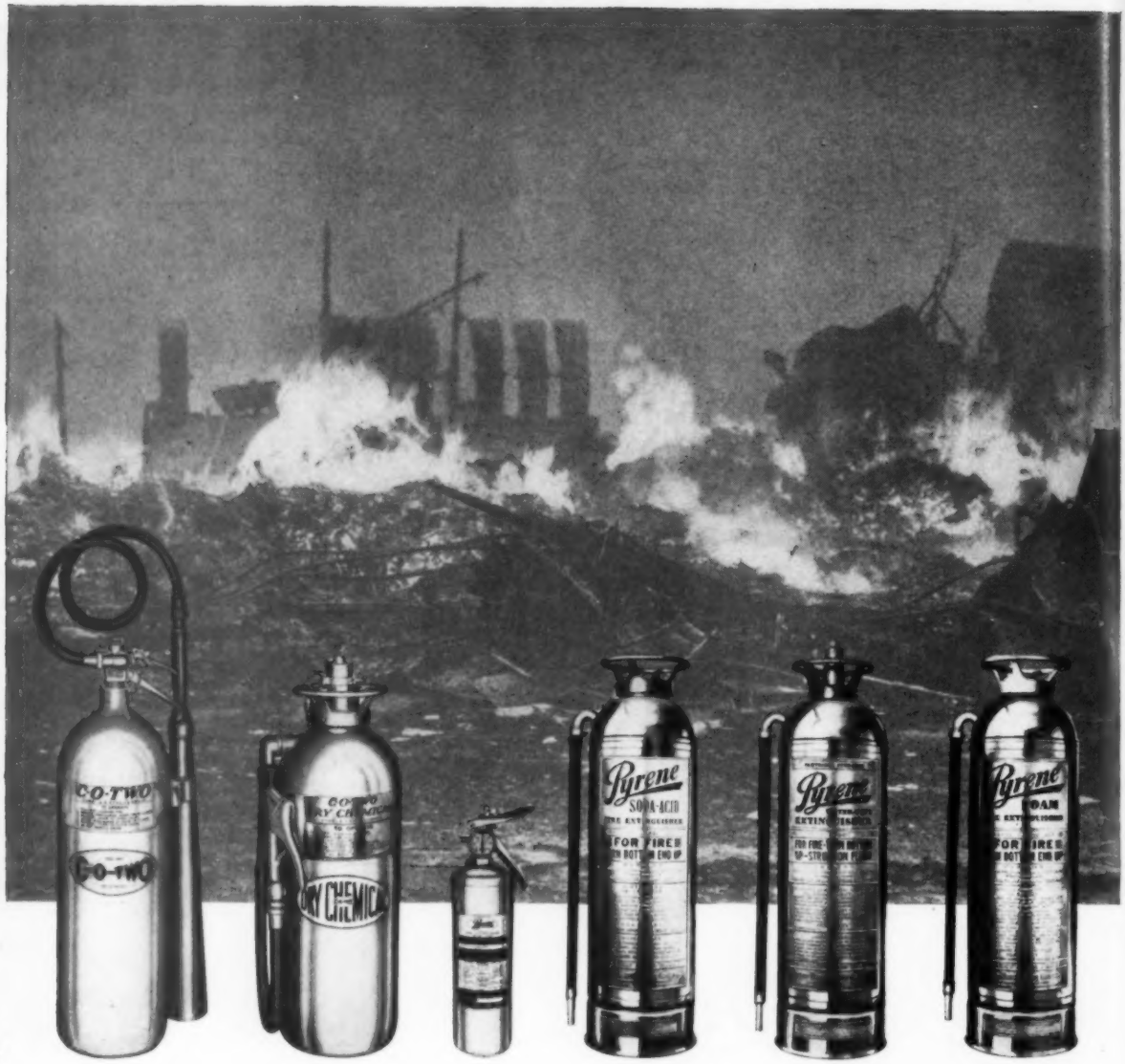

ALL TYPES...ANY CLASS FIRE!

Since different fire hazards require different types of fire extinguishers, PYRENE—C-O-TWO manufactures all types . . . the finest and most complete line on the market today.

When doing business with PYRENE—C-O-TWO, you receive unbiased advice on what is best for your particular fire hazards, whether class A, B or C. Also, there is a well-rounded sales engineering organization having nation-wide representation to render top quality service wherever you're located.

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COMPLETE FIRE PROTECTION

portable fire extinguishers . . . built-in fire detecting and fire extinguishing systems

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CIVIL DEFENSE PUMPER RECENTLY DELIVERED TO ROYAL OAK, MICHIGAN

"Built by Howe"

Howe Fire Apparatus has been built to meet the demands of fire fighters since 1872.

HOWE FIRE APPARATUS is constructed today, under the supervision of the fourth generation of the Howe family, to meet the high standards of workmanship and efficiency characteristic of all Howe fire equipment. Indicative of Howe achievements is the record in 1952 of building a high percentage of all pumpers produced in the United States. Howe's present record of building fire trucks and crash trucks on defense orders is further testimony to the value and prestige of Howe Fire Apparatus.

Howe builds their apparatus on any commercial chassis and their custom-built Howe Defender special fire engine chassis. You can have a choice of several pumps: the Piston Pump, the Centrifugal Pump (1, 2 or 3 stage), the Rotary Pump, to give you pumping capacity of 500, 600, 750, 1000, 1200 or 1500 GPM.

Furthermore, Howe was the first manufacturer to combine a volume pump and a high-pressure fog power take-off pump so widely used now in fire fighting.

There are many other outstanding features which you should know about Howe Apparatus. Have a Howe representative give you full information on the type of equipment you need. **WRITE FOR FREE** literature and a Howe catalog. *Look to Howe first for the latest in fire-fighting apparatus.* Address the Howe Fire Apparatus Co., Dept. FE12, 1402 W. 22nd St., Anderson, Ind.

HOWE

FIRE APPARATUS

Dependable since 1872

DESIGN ADVANTAGES

OF BARTON-AMERICAN FRONT-MOUNTED PUMPERS GIVE YOU EXTRA FIRE-FIGHTING EFFECTIVENESS

FOR RURAL and small town fire departments, units like this triple-combination beauty delivered to Amissville, Virginia, offer many basic design advantages. With a single, dependable 500 G.P.M. Barton-American UA-50 Front-mounted Pump, you'll have plenty of pressure and capacity for high-pressure fog or straight streams — and volume too! Without losing a second, you can drive this unit straight up to a farm pond, stream or cistern to draft extra water.

USING TWO or more hose lines, you can fight grass fires *on the move* — without the extra weight, cost and trouble of a second pump. Add these *design advantages* to the *superb quality features* listed below — and you'll see why *only* American Fire Apparatus gives so much extra fire-fighting effectiveness!

Compare These Superbly Engineered Features!

PUMP — Barton-American UA-50 Front-mounted Model, with *effective* frost-proof construction and *exclusive* combination friction and positive interlocking clutch mechanism *not* available on any other pump. All piping oversize . . . minimizes friction loss.

CONTROLS — Front-mounted construction places pump operating controls at convenient location in full view and in area lighted by headlights.

HOSE — Two effective Barton Super-Fog Guns, carried in chrome-plated brackets. Two booster reels with chrome-plated rollers and spools. Quick-release suction hose carriers with chrome-plated clamps. New improved suction hose strainer.

BODY — Streamlined body of 12 gauge steel with tubular reinforced top edge and with round front corners . . . streamlined chrome-plated rear crossbar and body rails . . . streamlined rear fenders carefully fitted to rear step and running board . . . slatted, natural-finished native oak hose-bed floor above tank.

TANK — Capacity 300 gallons, with 3/16" bottom, 10 gauge sides with top-quality construction lapped, welded corners . . . frost-proof tank outlet valve . . . tank float level gauge registers amount of water in tank at all times. Patented rear filler doubles as relief valve to protect tank when being filled from pump.

Fights running grass fires *on the move* — with one dependable pump.

EQUIPMENT — Full complement of fire department ladders on right side . . . plus all extinguishers, tools, brass fittings, etc., in full compliance with National Board of Fire Underwriters' requirements.

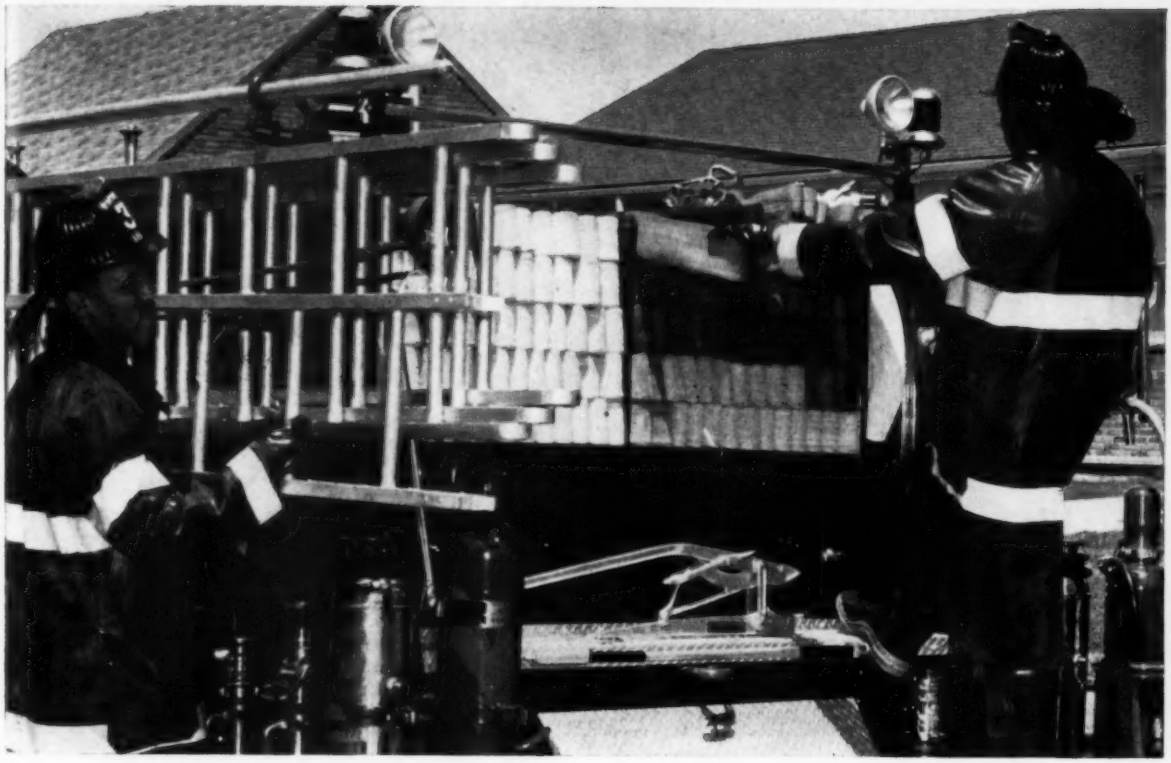
CONTACT your American Apparatus representative *first*—ask him for complete details!

American FIRE APPARATUS CO.

MIDSHIP PUMP MODELS ALSO AVAILABLE

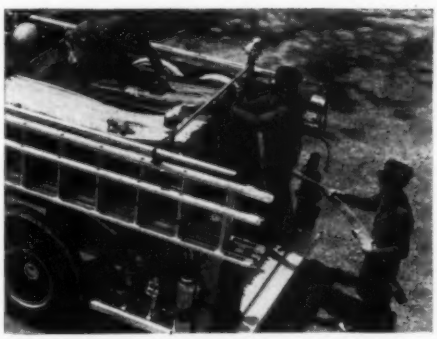
P. O. BOX 1028, MAIN ST. ROAD, BATTLE CREEK, MICH.

"Always Pioneering with Better Engineering."



Michigan Fire Dept. reports:

Lightweight hose made with Dacron* is flexible . . . easy to handle



Flexible hose made with "Dacron" permits fast coiling and racking.

"We've reordered hose made with 'Dacron' several times," says Chief Kenneth L. Roberts of the Inkster Fire Department, Inkster, Michigan. "Hose reinforced with 'Dacron' is easy to handle, lightweight and flexible too— and more of it can be carried on the apparatus."

Photo above shows how 800 ft. of hose made with "Dacron", right rear, racks compactly in same amount of space as 600 ft. of conventional hose at left.

Many fire departments are reporting increased all-round performance from hose made with "Dacron" polyester fiber. Used as the load-carrying "filling" cord that reinforces the hose, this man-made fiber permits a hose that's light and flexible—yet *stronger* than ordinary hose of the same diameter.

The superiority of hose made with "Dacron" has been conclusively proved by two years of field testing under all conditions. Du Pont makes the "Dacron" fiber, but not the hose. Fire hose made with "Dacron" is produced by many of the leading fire-hose manufacturers. Ask your supplier about it the next time you need hose. E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Wilmington 98, Delaware.

*REG. U.S. PAT. OFF.

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Stronger
- More flexible
- Cuts loading time
- Saves space

DACRON

POLYESTER FIBER

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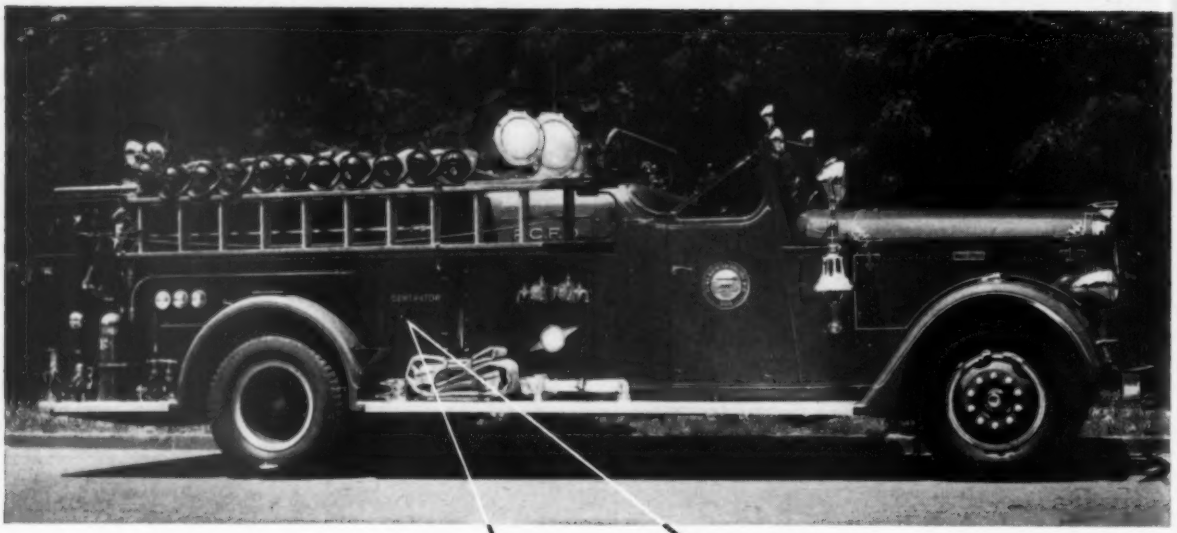
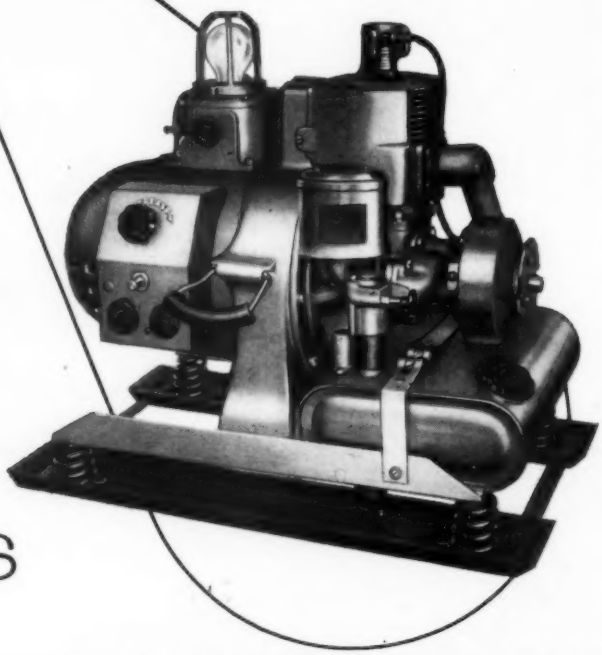
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*





FIRST CHOICE WITH FIRE DEPARTMENTS

Whenever you see a generator compartment on a fire truck, the chances are that inside . . . ready for a call . . . is a Homelite Carryable Generator. It's the number one choice with fire departments . . . has been for more than a quarter century . . . and for two good reasons. One, its small size and two, its big performance.

Very compact, a Homelite takes up a minimum of space on a truck. Light in weight, a Homelite is carried by one man. And famous for its dependability, a Homelite starts quickly in any weather . . . gives you the bright flickerless floodlight you need . . . and is not affected by rain, dust or ice.

Insist on Homelite Gasoline Engine Driven Generators. Always!

Manufacturers of Homelite
Carryable Pumps • Generators
Blowers • Chain Saws

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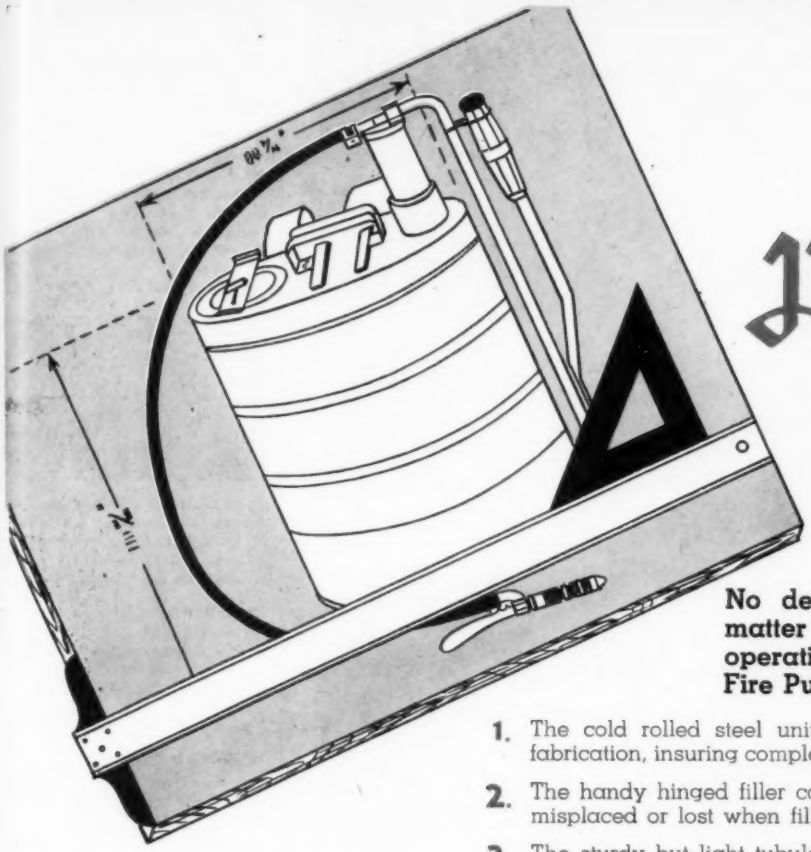
Canadian Distributors: Terry Machinery Co., Ltd., Toronto, Montreal, Vancouver, Ottawa.



THE Dragon

IS ENGINEERED AND DESIGNED FOR THE FIRE FIGHTER

No detail has been spared no matter how costly to improve the operation and life of a DRAGON Fire Pump. For example:

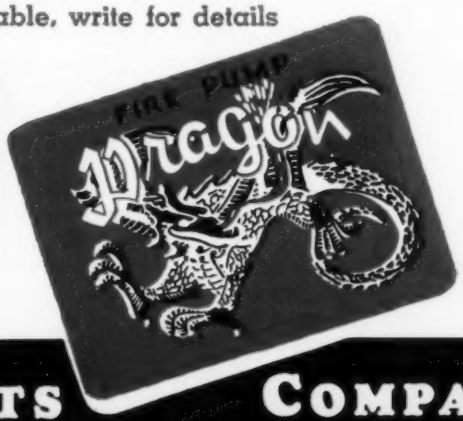
1. The cold rolled steel unit is hot-dipped galvanized after fabrication, insuring complete surface protection against rust.
2. The handy hinged filler cap opens in a jiffy. It cannot be misplaced or lost when filling the tank.
3. The sturdy but light tubular pump handle is mounted at a normal arm's length, especially shaped for effortless pumping—no awkward position—no muscle fatigue. It is equipped with a durable handlebar type of rubber grip.
4. The Dragon Pump is equipped with an automatic lever shut-off, and a rugged adjustable nozzle. The nozzle adjusts from a fog to a straight stream by simply revolving the tip.
5. The DRAGON is **always ready for immediate service.** It can be stored indefinitely because there is no pump packing to dry out or be replaced.

DRAGON FIRE PUMPS meet the requirements of the Underwriters' Laboratories, Inc., and can be supplied with their label of inspection attached.

DRAGON FIRE PUMPS
Now Available in 2 Models

- **No. 150-S—Stainless Steel Tank**
- **No. 150-G—Galvanized Tank (Cold Rolled Steel-Hot Dipped Galvanized after Fabrication)**
- **All units equipped w/ brass pumps, all Tanks are seam welded**

Valuable Distributorships available, write for details



PARCO PRODUCTS COMPANY
PENNSBURG, PA.

Another Gas Turbine Milestone

Photo at right shows Solar's first gas turbine driven aircraft generator set to be installed in a Douglas C-124C transport. The unit has just been removed from the plane after completing 500 hours of trouble-free operation. No servicing other than normal maintenance was required during this time, proving again the reliability of the Solar "Mars" gas turbine engine.

Solar pump on test at Navy Firefighting School

Portable fire pumps of the future will be powered by small gas turbine engines

THE IDEAL PORTABLE FIRE PUMP would be a unit of large output, light weight, small size, quick starting and easy maintenance. These ideal specifications are fully met for the first time by a new type of portable pump, powered by the Solar "Mars" gas turbine.

This portable fire pump of the future has been developed by Solar for the U.S. Navy Bureau of Ships. It delivers 500 gallons per minute at a pressure of 100 psi with a 16 ft suction lift. Dry weight, excluding fuel tanks and hoses, is only 175 lb. The unit is hand cranked and ready for full load in 15 seconds. It can pump its own weight of water in 2.5 seconds.

The Solar Mars gas turbine engine, prime mover of this unit, weighs less than 100 lb, is smaller than a 2-ft cube, and produces 50 hp using gasoline, diesel oil or kerosene as fuel.

Fire chiefs and other authorities both here and abroad have tested the Solar fire pump and given it their endorsement. It is not yet generally available because all current production of Solar gas turbines is going for military uses. However, production for commercial applications is expected in the near future. May we have your inquiry?

SOLAR AIRCRAFT COMPANY — SAN DIEGO, DES MOINES

DESIGNERS, DEVELOPERS AND MANUFACTURERS OF METAL ALLOY PRODUCTS

This is What Solar Offers You

Solar specializes in the manufacture of precision products from alloys and special metals for severe service. Solar's experience since 1927 is unduplicated in this field. Solar skills and facilities range from research, design and development through to mass production. Wherever heat, corrosion or difficult specifications are problems, Solar can help you solve them.

PLANTS. *In San Diego and Des Moines (photograph above). A total of 1,400,000 sq ft of floor space. Approximately 5,000 employees. Annual sales over $65,000,000.*

EQUIPMENT. *Production equipment for all types of metal fabrication —forming, machining, welding, brazing, casting, coating. Extensive laboratory and testing equipment. Facilities for development, prototype, limited or mass production.*

SERVICES. *Research, design, development, tooling and production engineering staffs. Experienced with all alloy steels, stainless alloys, super alloys, and titanium and its alloys. Government source inspection and Solar quality control meet rigid aircraft and commercial standards.*

CONTRACT PRODUCTION

Current orders include aircraft engine and airframe parts, alloy castings, pneumatic ducting, atomic energy components. Customers include some of the most honored names among aircraft and industrial companies in the U.S. and Europe.

SPECIAL PRODUCTS

Bellows. *"Sola-Flex"® bellows and expansion joints in many designs from ½ in. up to the world's largest, 28 ft in diameter.*

Gas Turbines. *Solar "Mars" 50 hp engines for auxiliary generator sets, ground carts, portable fire pumps; Solar "Jupiter" 500 hp engines in variable and constant speed models.*

Ceramic Coatings. *"Solaramic"® is the Solar trade mark for a family of coatings that protects metals from heat, corrosion, galling and abrasion.*

Controls. *Complete control systems utilizing the new Solar "Microjet"® principle for control of gas turbines, jet engines and pneumatic devices.*

FURTHER INFORMATION
Your inquiry regarding any Solar product or service will receive prompt attention. Address
Solar Aircraft Company
Department A-52
San Diego 12, California

Mrs. Louise Bane holds her twins, Billy (right) and Wendy (left). Fire Chief Masie is at the right, Assistant Chief Jones at left.

The Rescue of Wendy Bane

Two-month-old Wendy Bane, a twin, was limp and unconscious when the family physician and firemen from the Rennerdale, Pa., Volunteer department hurried into the house. Her respiration had been blocked as the result of a choking spell.

The physician's examination detected no heart beat. He motioned to Fire Chief Jim Masie and Assistant Chief Herb Jones. They quickly strapped the facepiece of a Pneolator over Wendy's nose and mouth. All watched her intently as the instrument fed life-giving oxygen into her tiny lungs. Seconds passed.

Then the physician moved his stethoscope over Wendy's chest again. He looked up. His relieved face told that the heart beat had started. A few hours in the hospital completed the cure. Wendy was taken home.

This was the first emergency case for Rennerdale's Pneolator since the unit was donated to the department by the Woman's Auxiliary. Wendy's mother, Louise, a registered nurse, really means it when she says: "I'll love those ladies the rest of my life."

MINE SAFETY APPLIANCES COMPANY

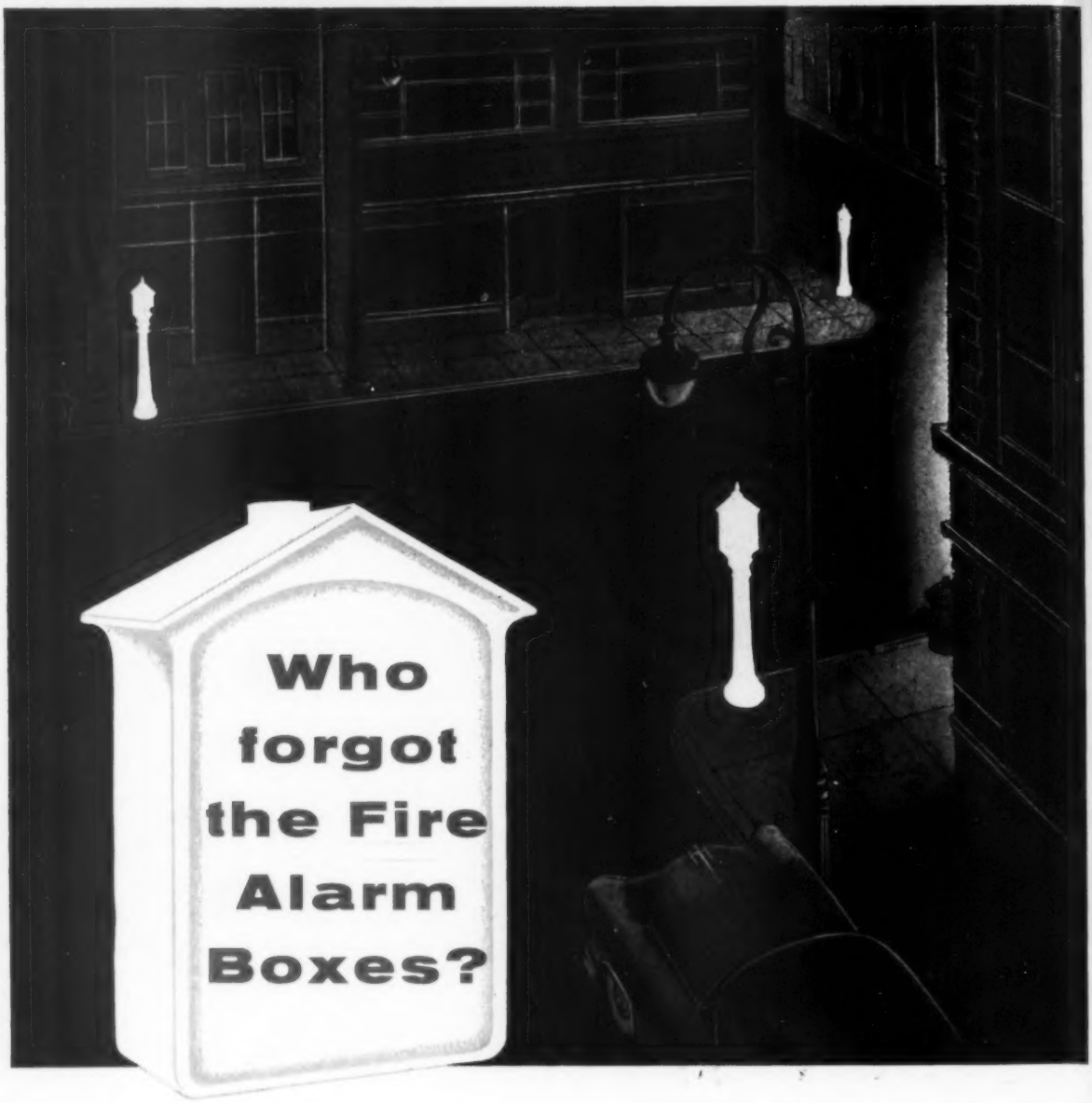
201 North Braddock Avenue
Pittsburgh 8, Pa.

82 Branch Offices in the United States and Canada

MSA
SAFETY EQUIPMENT HEADQUARTERS

THE M·S·A PNEOLATOR

Automatic artificial respiration device that intermittently inflates lungs to a pre-determined pressure, then cuts off to permit exhalation by natural recoil of chest and diaphragm. Regulator compensates for age and physical condition of patient. Includes facepieces in two sizes—for adult and child. Portable, rugged, dependable. Write for details.



Of course your hydrant coverage is planned along with community growth.

And equally important for community safety is extension of the Fire Alarm Box System that makes it possible to use the hydrants *fast.*

The growing community today needs *complete* fire protection to safeguard its growth in the future.

GAMEWELL®

THE BOX IS POSITIVE

Reduces Human Error

THE GAMEWELL COMPANY • NEWTON UPPER FALLS 64, MASS.

DECEMBER, 1954 FIRE ENGINEERING VOL. 107, NO. 12

With the Editor

The Growing Problem of Large Loss Fires Among students of fire suppression, the question is often raised "Are our techniques and methods keeping abreast of the increasingly complex and dangerous fire hazards of our nation?"

If we are to judge by fire loss figures, it would not seem so. Our staggering fire waste grows, and grows! But it is not until one analyzes these loss data that he begins to realize just how serious the problem is—and the need for a re-appraisal of the entire fire control and extinguishment strategy.

Of the 268 large loss fires of 1953 ($250,000 or over), 108 were in the industrial category. Of these, a great majority involved products or processes essentially modern; in short, part and parcel of this chemical and atomic era in which we live and work. These costly fires called for something besides the old "pour-it-on" methods of extinguishment. At the same time, they proved very conclusively that the fire suppression facilities and strategy of yesteryears cannot meet these more modern problems of fire extinguishment.

It is no particular criticism of the fire departments involved in fighting these fires that they were unable to hold them in check. In a large percentage of them, the fires were out of control before the departments ever reached the scene—and in many cases even before the alarm was turned in.

Over sixty per cent of these fires were in places where local fire forces were totally inadequate to cope with them, and it was necessary to summon help from outside, some of it having to travel considerable distances.

In many cases the fires called for knowledge of fire control in highly specialized hazards, of which the fire forces were oftentimes ignorant. And many were further handicapped at the outset because of lack of specialized fire fighting equipment necessary to successfully cope with the particular situations arising out of the fire.

Some of the chief causes of such situations were (1) shortage of personnel and/or lack of training of the plant personnel to cope with fire emergencies; (2) the failure of plant managements to take the municipal fire forces into their confidence.

It is not uncommon in these large-loss fires for city firemen to be called only after the industrial plant fire fighters have wrestled unsuccessfully with the blaze. Nevertheless, in the eyes of the public, it is the municipal fire department that gets the blame for failure to control the big blaze.

What's to be done about this problem? For one thing, plant management must get together with the fire service. The more intricate, complicated and dangerous the factories' products, processes and materials, including storage and handling, the more important it is that management and municipal fire fighters cooperate to weigh the risks and prepare pre-determined plans for meeting all possible fire emergencies that may eventuate. Further, the more important it is that both industrial plant firemen and municipal fire fighters be trained in the proper fire protective and preventive measures. If personnel and equipment needed to better arm the fire forces, both those within the plant and those which may be called upon from outside to assist plant firemen are lacking, the necessary added resources should be secured without delay. After this, should come planning and training and more training—both theoretical and practical.

There is no longer any excuse for industrial management not organizing suitable local plant fire protection, equipping the fire forces and training them in the latest, most efficient methods of fire extinguishment and fire prevention. There never was, and there never should be, any question concerning the wisdom of adequate cooperation between industrial fire forces and municipal fire fighters. Nor should there be any delay in the preparation of pre-fire control plans by both municipal and plant fire forces.

The New Year Next month marks the beginning of our 78th year as the "Journal of the Fire Service." It is fitting that at this time we should wish all our many friends who have helped to make this possible, the Compliments of the Season, and to express the hope that we will have the pleasure of continuing our happy relations throughout the year to come.

Fred. Shepard

Ten Firemen Killed When Chemical Tank Explodes

Cause of Philadelphia Disaster Still Undetermined; Chief Officers Reported Among Fatalities

A STAFF REPORT

Editor's Note: **The basic data upon which this Special Report is based have been secured from several sources, including the excellent Philadelphia press accounts, but chiefly from the information provided by the Philadelphia Fire Department, Commissioner Frank L. McNamee and Deputy Commissioner, Chief of Department, George E. Hink, who directed rescue operations at the scene. The Editors are particularly grateful to these officials and to their staff for making available to FIRE ENGINEERING the information and photographs taken by Lieut. Robert Kennedy without which this Report would not be possible.**

In releasing their material, the Commissioners have but one main objective: to acquaint the nation's fire service with all available helpful facts concerning this tragedy, in the hopes that it will never again be repeated elsewhere.

It should be mentioned that the final chapter in this episode is yet to be written. Although the investigations have been made, and the chief causes generally are known, there still remains the fixing of the responsibility for the disaster, if guilt can ever be established. There remains, also, the question of what is to happen to the families of the deceased fire fighters, and what is going to be done to tighten up local regulations to (1) keep the fire force informed of hazards of this nature, and (2), to arm the fire department with the necessary authority to prosecute similar violations which it, or other city agencies, uncover. Only by so doing can any good whatever come out of this regrettable tragedy.

ONE of the worst tragedies ever to befall the nation's Fire Service occurred on October 28, last, in Philadelphia, Pa., when ten members of the Fire Department, including three chief officers, met death, and over twenty others were injured, following an unexpected explosion of a tank in the plant yard of the Berg Laboratories, that city.

Only one other disaster in that city has caused heavier loss of life to its fire fighters; this was the Bodine Street fire of December 20, 1910, when thirteen firemen and a policeman were killed by falling wells.

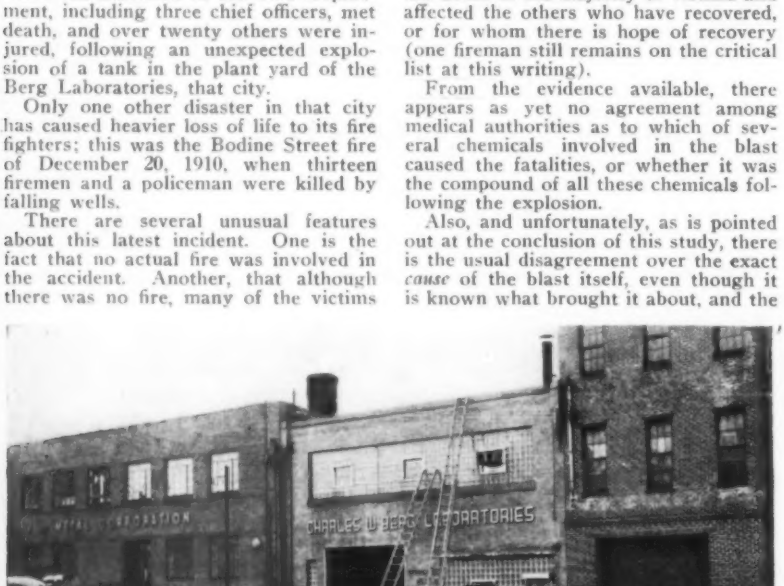
There are several unusual features about this latest incident. One is the fact that no actual fire was involved in the accident. Another, that although there was no fire, many of the victims suffered severe burns; and still another is the exact source and nature of the irritant and toxic fumes which caused the death of the majority of victims and affected the others who have recovered, or for whom there is hope of recovery (one fireman still remains on the critical list at this writing).

From the evidence available, there appears as yet no agreement among medical authorities as to which of several chemicals involved in the blast caused the fatalities, or whether it was the compound of all these chemicals following the explosion.

Also, and unfortunately, as is pointed out at the conclusion of this study, there is the usual disagreement over the exact *cause* of the blast itself, even though it is known what brought it about, and the placing of the responsibility for the conditions which created it.

One thing stands out, however: that is the loyalty to their calling by the members of the Philadelphia Fire Department in the face of an unparalleled and unforeseen emergency, a situation which is essentially part and parcel of this chemical age in which we are living.

There may be confusion over the exact cause, and over the outcome so far as blame is concerned, but there is no doubt about the operations of the heroic fire fighters (and their police brothers) on that Thursday morning, October 28th, when they were called to the premises of the Charles W. Berg Laboratories.



Front of Berg Laboratories building. Picture taken following explosion with some second alarm units and police emergency vehicles in attendance on Fifth street. Little evidence of blast is noticeable on this side of plant. Crew of Engine 2 entered from this approach.

Fire Department Operations

On Thursday, October 28, 1954, at 6:07 A.M., a local (still) alarm from fire alarm headquarters sent Platoon C of Engine Co. 2—Lieutenant Hayes Rommel, Ladder No. 3, Lieutenant Charles Holtzman, and Battalion Chief John N. News of the 6th Battalion to "the rear of 1827-29 North 5th Street" (property of the Berg Laboratories).

According to press accounts, one telephone informant had said that ammonia fumes were present in the area; another reported that "there appeared to be a small blaze in the yard in the rear of the laboratories." This latter is verified by the fire alarm bureau. No box alarm was sounded at that time.

Within two minutes Battalion Chief News and the two companies arrived at the scene, Cadwallader Street below Berks Street (see Diagram). A very heavy concentration of vapors and fumes were present which, according to Fire Department reports, obscured the vision of members of the Department so that the source of the trouble could not immediately be ascertained.

Chief News ordered Engine 2 to the front of the Berg building on North 5th Street, between Montgomery and Berks Streets and instructed his aide to transmit a box alarm (Box 2825, Germantown and Montgomery Avenues). This was at 6:10 A.M.

Upon subsequent investigation made by the Fire Department, it was disclosed that Chief News had been unable to determine the source of the fumes from the Cadwallader Street side and had decided to check the Berg Building itself for the source. The crews of Engine 2 and Ladder 3 made entrance into the laboratory from the 5th Street side.

After checking the structure and finding no fire or apparent source of the fumes, it was then found they were coming from a tank in the yard at the rear. The investigation thereupon centered at this point, and the investigating forces were increased by the addition of Deputy

Overall view of rear yard of Berg plant looking west toward remains of blasted tank at left against scarred wall and rear of Berg building (in background). Torn tank originally stood where chief is pointing, at right. Shape of the bricked-in rectangular enclosure may have had some effect on blast waves and dispersion of fumes. Most of the firemen entered from the east (behind point from which picture was taken).

Chief Thomas A. Kline, 2nd Division; Battalion Chief John Magrann of the 3rd Battalion, with Engine Companies 15, 29, 21, Ladder Company 7 and Rescue 4, all of which had responded on the box alarm.

The entrance into the 5th Street side of the building was made by Lieutenant Hayes D. Rommel of Engine 2, whose men had donned respiratory protective equipment before forcing the front door. About the time they had completed their search, the box alarm assignment began to arrive.

Chiefs Kline and Magrann joined Chief News with other firemen who had entered through the wire mesh fence gate in the rear of the yard, and it was determined that the fumes and vapors were coming from a vent on top of a 4,000-gallon aluminum tank. The wind, which was blowing in an easterly direction, was carrying these vapors toward Cadwallader Street and dropping them down in the vicinity of the rear fence of the yard, on Cadwallader Street.

Fire Department reports indicate that the yard itself by then was almost entirely free of fumes or vapors and there was complete visibility. The report, however, emphasizes the earlier concentration of fumes and what some witnesses said appeared to be smoke at the Cadwallader Street end of the yard upon the arrival of the first fire forces. There is apparently some difference in the witnesses' descriptions of the color of the "smoke" and the odor of the fumes or gases. Many commented on the "perfume-like odor"; others thought they smelled "ammonia," and others likened it to still different aromas.

Lieutenant Rommel's men lifted an overhead wooden doorway in a further effort to locate the seat of the trouble. They were still puzzled as to just what they were encountering. Rommel joined Chief News in the back yard. He climbed atop a stack of oil drums against the south wall, while Deputy Chief Kline and Battalion Chiefs News and Wagrann and other officers and men were checking the suspected tank for outlets to determine if steam lines or any other lines were entering the container.

Somebody called to Rommel to get down from his position on the drums. He jumped to the ground just before the tank suddenly exploded with terrific force and without any warning.

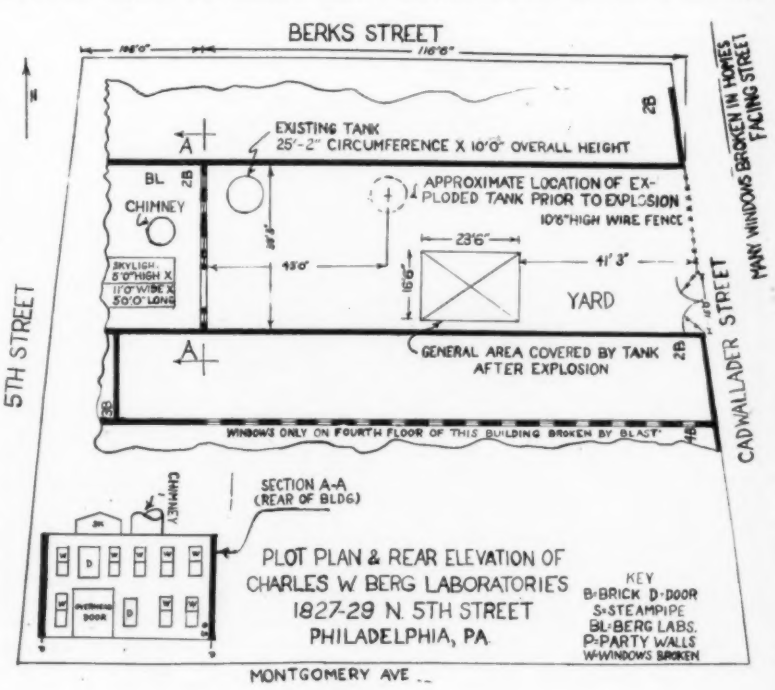
Lieutenant Rommel was rolled along the ground by the blast, but was not badly injured. Deputy Chief Kline was killed instantly when struck by flying metal from the tank. Battalion Chief News, who was blown about 30 feet across the yard into a brick wall, somehow managed his way to the front of the building, and in his dying moments instructed his aide to transmit a second alarm. Chief Magrann was killed instantly by the flying tank.

About ten firemen who were close to Chief News were thrown against the back wall, and some of them were tossed about like tenpins. The helmet of Chief News was blown to the roof of a one-story building adjoining the laboratories. Chief Kline's fire helmet was found on the roof of the Berg plant.

The force of the explosion ripped the tank apart and threw it, twisted and torn asunder, across the yard. The concrete foundation under the tank was split. A tree next to it was uprooted. Windows in the laboratory and the fourth floor of the Hi-Plane Mfg. Co., two doors away, as well as in adjoining buildings were shattered. A great wave of nauseating fumes spread throughout the area and as the container ripped apart, liquid chemicals spilled onto the ground. Drums of solvent stored in the yard were tossed about.

Help was quick in coming. Among the first to jump to the rescue were the police. As the solvent, described by some witnesses as a "bluish fluid," flooded the yard, the fumes given off had firemen gasping for breath and unable to see clearly. Policemen hurried to warn residents in the area to close their windows. Others put in radio calls for ambulances and other emergency vehicles from four surrounding police districts. Fire department radio flashed the news of the disaster to fire headquarters and helped set in motion the resources of not only the Fire Department but all other city agencies. Warnings of disaster went to the nearest hospitals.

At this juncture there was no way of knowing whether or not the remaining one of the twin tanks in the yard would explode to add further horror to the tragedy. Nevertheless, those firemen not incapacitated by the initial blast turned quickly to help their less fortunate fellow fire fighters. Among them was Lieutenant Rommel who, although cut and bruised, aided with the rescue work. Curiously enough, among the injured he helped out of the back yard was his own brother Clifford, of Engine 21. Quickly the injured and fume-affected firemen were rushed to hospi-



tals. Among them were practically the entire crews of the first companies to reach the scene. Chief News was dead on arrival at Stetson Hospital. Chief Kline was pronounced dead on arrival at Temple University Hospital. Chief Magrann died at Hahnemann Hospital. Fireman Joseph Bandos died later at St. Luke's and Children's Medical Center. Over twenty other firemen, including several line officers, and a number of patrolmen were hospitalized.

The striking of the second alarm brought to the scene Commissioner Frank L. McNamee, Deputy Fire Commissioner Chief of Department George E. Hink; Assistant Chief of Department Joseph M. Clarke; Acting Battalion Chief James A. Sherlock of the 4th Battalion, together with Engine Companies 6, 25, 31, 27, and Ladder Company 12; Captain William J. Eckles, Acting Fire Marshal; Lieutenant Wilmer Boardman of the Fire Marshal's Office; the Department Mobile Hospital Unit, and Doctor Saverio F. Brunetti, Chief Surgeon; SS 100 and SS 101 (Chemical Supply Units); and units from the Special Service Section.

Chief Hink, Chief Clarke, and Acting Battalion Chief Sherlock were on the scene within a few minutes, and directed the rescue of the injured and the removal of all victims from the area.

As has been said, immediately following the explosion, the entire yard and Berg's building was flooded with heavily concentrated fumes. A thorough and rigid check was made of all parts of the yard and structure, and the adjoining buildings and roof tops, to make certain that all the victims had been located and removed. Hose lines were stretched into the building and yard although there was no fire. Some of these lines were operated, using both straight streams and water fog, to wash down and decontaminate the yard and walls of the affected adjoining properties. Even the street in front of Berg's was sluiced down to dilute the contamination and dissipate the chemical fumes and gases.

Where exploded tank stood in Berg plant's rear yard. Sheared off base of blasted tank is shown at lower center. Its twin, still intact, stands against plant at upper right. View taken looking west in rear yard. Note damaged drums in foreground.

Close-up of exploded tank being checked by firemen. Victims have been removed and area cleared of fumes. Deputy Chief Kline and Battalion Chiefs News and Magrann were killed by this flying wreckage. Note damaged drums in foreground.

Immediately upon arrival, Chief of Department Hink ordered his aides to notify Managing Director Robert K. Sawyer, the City Law Department, City Chemist, and the Building Inspector, of the prevailing conditions. Chief Hink also ordered that entry be made to the Berg plant office in order to obtain names and phone numbers of members of the firm and key employees so that they might be reached to ascertain exactly what chemicals the ruptured tank contained. At this point neither the contents of the exploded tank, nor the one still standing, were known to firemen. There were no markings on the containers or elsewhere to indicate what the tanks held.

The telephone calls resulted in information received from Thomas Black, chemist employed by Berg Laboratories, regarding the contents of the tank. The Police, under supervision of Deputy Commissioner Albert E. Du Bois, immediately transmitted this information to Dr. Brunetti, and to all of the hospitals to which the injured men had been removed.

This extremely important information without doubt greatly aided the attending doctors in the initial treatment and subsequent processing of the hospital cases.

Special departmental commendation has been given to the officers and members of the companies who responded on the second alarm and who without hesitation, began rescue operations, notwithstanding the fact that nearly all of the first alarm personnel had been killed or disabled and there was threat of further explosions. The close cooperation of the police, who assisted in the rescue, in warning residents of exposed properties; and in setting up road blocks, and speeding movements of emergency vehicles, was also praised by top Fire Department officials.

A very definite asset to the Fire Department in the rescue operations was the availability of ample supplies of the most modern rescue equipment available, particularly self-contained breathing apparatus, without which, this Journal is informed, the casuality list would have been much greater.

Within minutes after the disaster occurred, Managing Director Sawyer and Commissioner McNamee ordered an investigation which was participated in by Commissioner Walter A. Pytko; Police Inspector John F. Driscoll; Police Captain Morris Fleisher; John J. Corbett, State Boiler Inspector; Assistant City Solicitor James Ryan; Assistant District Attorney Victor Wright; Dr. Edward Burke, City Chemist; City Building Inspectors; Inspectors from the State Department of Labor and Industry; Assistant District Attorney John Papola and Captain William J. Eckles, Acting Fire Marshal, and his staff.

Joining the investigation group also were Deputy Solicitor Levy Anderson; Assistant District Attorney Victor H. Wright; P. W. Purdom, Director of Environmental Sanitation; J. S. Reich

of the Water Department; C. L. Pyron, representing Dow Chemical Company; Dr. Julius Comroe, professor of physiology at the Graduate School of Medicine, University of Pennsylvania, who aided in treatment of the men in the hospitals; Dr. Charles Lampert, City Chemist, and Police Commissioner Thomas Gibbons.

Nature of Injuries and Treatment of Victims

As has been said, Deputy Chief Kline and Battalion Chiefs News and Magrann died almost immediately as a result of the blast. Hoseman Joseph J. Bandos, 54, died at 2:45 P.M. and Hoseman James F. Tygh, 32, died at 5:50 P.M., the day of the explosion. The latter two succombed to blast injuries, burns and effects of fumes.

The sixth, seventh and eighth victims died the following day, the 29th. They were Hoseman James Doyle, 32, under treatment for burns at Hahnemann Hospital; Hoseman Thomas Wilson, 36, who succumbed at Philadelphia General Hospital from burns and inhaled toxic fumes, and Lieutenant Charles Holtzman, 30, who died at 1:00 P.M. in St. Luke's and Children's Medical Center where he was being treated for burns and fume inhalation. The death of Fireman Wilson came suddenly and was attributed to chemical irritation of the bronchia which caused fluid to fill his lungs.

The ninth fatality was Ladderman Joseph Vivian, 32, under treatment at Philadelphia General Hospital for burns of the face and hands and for inhalation of irritant fumes. He had been in an oxygen tent since arrival at the hospital.

The tenth and final victim to succumb was Bernard Junod, 42, who lost a valiant fight against injury due to inhalation of what was by then believed to be the effects of phosgene gas.

It was apparent to medical authorities almost from the time of arrival of the first victim in the hospitals that they were dealing with some chemical, toxic agency or combination of chemicals, which closely resembled war gases, such as phosgene. It was not apparent, however, just what chemical or combination of chemicals had precipitated the original explosion and possibly created the dangerous fume condition, until after information concerning the contents of the containers had been secured from Berg representatives. This was the first inkling that the ruptured tank had contained a combination of ortho-dichlorobenzine, propylene-dichloride, and ethylene-dichloride, all of them dangerous gases individually, and in combination.

The condition of the victims, meanwhile, was diagnosed as quickly as possible. Samples of the chemical mixtures were secured from the scene of the accident and sent to the city chemist for speedy analysis. As the investigation into the cause of the explosion proceeded, additional information of a medical nature was secured and relayed to attending medical authorities who were being concentrated in increasing numbers to treat the afflicted.

City chemists Drs. Edward Burge and Charles Lampert reported that their findings frm the analysis of materials scraped from the ripped tank indicated the blast had released highly toxic fluid which gave off phosgene gas as well as hydrochloric acid and aluminum chlorate, which had been formed as by-products of the introduction of the solvent and the fatty acids previously stored in the tank.

Firemen opening door which withstood blast. Crew of Engine 2 entered yard from plant through rear entrance just before blast. Note blown windows and toppled containers.

Their report was made to Dr. Saverie Burnetti, Chief Fire and Police Surgeon, who said the fumes were the same type of gas widely used by armies of World War I. What made them particularly deadly was the fact that exposure symptoms developed some time after the incident.

As soon as this information had become known, Dr. Brunetti ordered thorough physical check-ups of some 125 firemen and 25 policemen who were at the scene of the disaster but were not hospitalized. Dr. Brunnetti and four assistants who conducted the examinations among these men, reportedly "found numerous instances of irritation in the upper respiratory system, but nothing serious."

On the 30th, all but one of the remaining thirteen hospitalized firemen had been concentrated in Philadelphia General Hospital, where five were reported still on the critical list. Four of these five patients were receiving oxygen following operations. They lay in a converted class room adjoining the main ward and were ministered to by a corps of physicians, surgeons, interns and nurses working 'round the clock, who kept constant vigil on the patients.

Specialists under Dr. Eugene Connors, chief of the anesthesia department, watched for signs of serious congestion. Called into consultation were foremost specialists such as Dr. Julius Comroe, Jr., professor of physiology of the Graduate School of Medicine, University of Pennsylvania, nationally known authority on pulmonary ailments. A team of eight specialists concentrated their energies in the single hospital in the grim battle to keep the death toll, already at nine, from rising.

These medical forces had at their disposal every available facility for treatment of the men, including a new "wonder drug" known as hydrocortisone, which has proved effective recently in some severe pulmonary cases. It can be injected directly into the veins.

In spite of these efforts, one more patient succumbed: Hoseman Bernard Junod, 42, died November 3rd as a result of inhalation of toxic fumes.

Phosgene Not Alone to Blame?

By November 11, it was established that any one of three chemicals stored in the exploded tank rather than phosgene, could have been responsible for the death of the ten fire fighters.

The fact that phosgene "probably was not solely or even largely responsible for the deaths" emerged from two separate reports. The first was from City Police Chemist Dr. Edward J. Burke. He reported that phosgene was present only in "small" amounts. It was not produced inside the tank as part of the chemical reaction that caused the explosion; it was formed "in minimum quantities" as the hot chemicals hit the outside air, he said.

However, it was pointed out, the tank contained ethylene and propylene-dichloride and ortho-dichlorobenzine which are mixed to prepare a cleaning fluid for rugs and other fabrics. Any one of these compounds is poisonous, if inhaled in sufficient quantity, Dr. Burke said.

The concentration of the compounds in air mixture and the time of exposure were the conditions controlling the extent of injury to individual casualties, he concluded.

A corroborating report came from two teams of doctors that worked with the victims at the Philadelphia General Hospital. The first, headed by Dr. Eugene H. Connors, was directly responsible for the round-the-clock care that was credited with saving the lives of three of the desperately ill firemen. The other was a consultation team, headed by Dr. Julius H. Comroe, Jr., of

(*Continued on page* 1170)

Hurricane Disasters Show Need For Equipment and Preplanning

Firemen Take Lead in Rescue Efforts . . . Pluck Many From Death While Losing Five of Their Own

A SPECIAL STAFF REPORT*

THE year 1954 was a disastrous one so far as hurricanes were concerned. All told, eight tropical storms were generated in the Caribbean area, but only six developed dangerous power. Two, Carol and Edna, ripped New York, Long Island and New England, taking a toll of at least 86 lives. Carol, the most furious, struck this country the end of August, killed 68 persons along the Atlantic Coast alone and caused damage totaling nearly half a billion dollars.

Edna roared in on Sept. 11, after feverish preparation in the northeastern area, and although it did not live up to its advance notices, it killed at least 20 persons and caused $50 million in damage.

Hurricane Hazel, named also under the Weather Bureau's alphabetical identification system, was first spotted by the Navy on October 5, in the Windward Islands, 1,600 miles east southeast of Miami. Hazel threatened Cuba, then turned away to strike Haiti where it leveled villages, and caused heavy loss of life and property. Then Hazel moved northward, preceded by storm warnings along the North Atlantic Coast.

This hurricane struck the North Carolina Coast with great force, leaving a catastrophic toll of life and property loss. Underwriters reported the loss claims in this State alone would equal or exceed all the premiums paid in the last 10 years, or approximately $40 million.

Tragic losses piled up all along the Coast: the Carolinas, Virginia, West Virginia, District of Columbia, Maryland, Delaware, New Jersey, Pennsylvania and New York. The erratic, unpredictable Hazel finally blew itself out October 18, in the far reaches of Hudson Bay, Canada, after an 18-hour reign of terror, wrecking the worst havoc ever recorded from such a storm in the Dominion.

According to the Associated Press, death toll of this hurricane was 98 in the United States and 57 in Canada with 39 missing in the Canadian Provinces. Later figures reported 85 dead, 1,500 homeless and property loss in excess of $100 million in Ontario alone.

From the Carolinas to and including Canada, the fire service was called upon to bear much of the burden of rescue of persons and live stock, and the salvage of property, as the windstorm crushed buildings, smashed motor vehicles, tore down communications and power services and caused floods that inundated whole communities.

In addition, fire forces had to combat fires, some of them of serious proportions, caused by falling wires and other effects of the hurricane. In all these operations a number of fire fighters lost their lives and many others suffered injuries, some narrowly escaping death. How many persons owe their lives to the efficient and often heroic efforts of firemen, permanent and volunteer, will never be known. The sum total, however, will ever remain a monument to the oft-repeated saying that no matter what the emergency or disaster, the fire service is the first to be called upon for help and the first to respond and swing into action with the trained and equipped personnel.

Although always ready, fire fighters in the expected path of the storm made special plans and preparations to meet the expected onslaught. Fire alarm headquarters and electrical bureaus followed the progress of the storm, keeping watch of its progress. As the crisis neared, extra help was mobilized in the communications and other branches of the service. Off-shifts were alerted and later called to duty. Checks were made on all special equipment, such as emergency generators, boats, power saws and other tools that might be needed. Meetings of officers were held and strategy laid out.

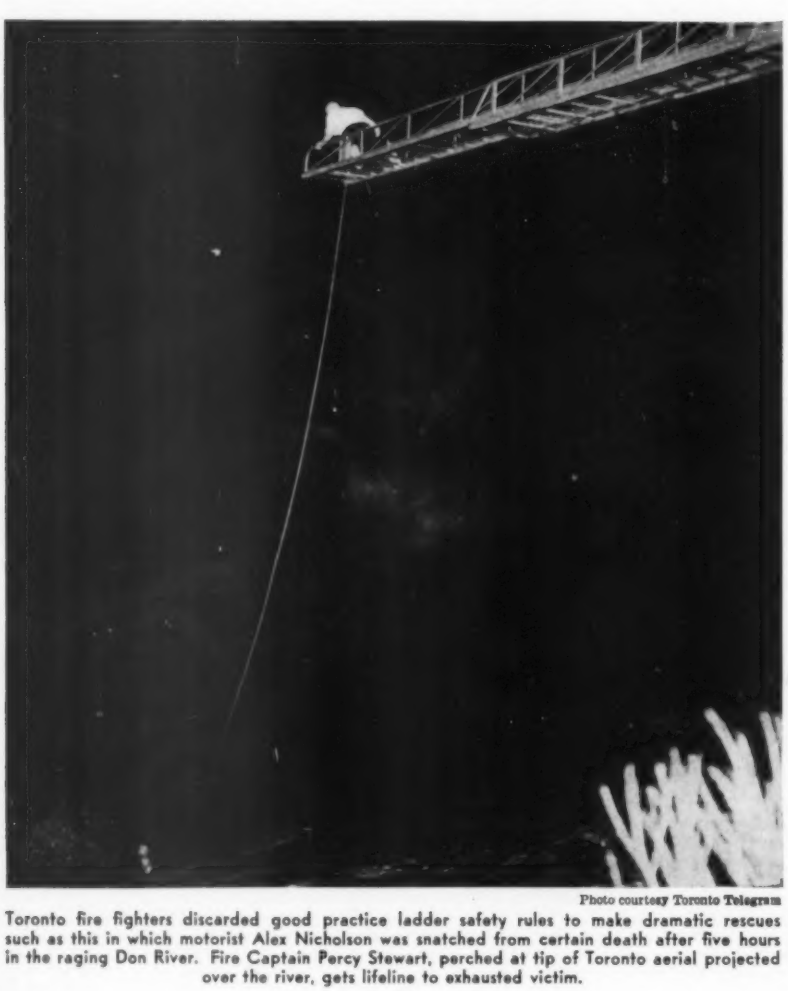


Photo courtesy Toronto Telegram

Toronto fire fighters discarded good practice ladder safety rules to make dramatic rescues such as this in which motorist Alex Nicholson was snatched from certain death after five hours in the raging Don River. Fire Captain Percy Stewart, perched at tip of Toronto aerial projected over the river, gets lifeline to exhausted victim.

*The editors gratefully acknowledge the contributions of the Philadelphia Fire Department, Fire Marshal's Office, Province of Toronto, Wm. J. Scott and Martin S. Hurst, and correspondent John Karl Lee, for material upon which this report is based.

When the storm struck, the emergency plans went into effect. This quotation from the report of Acting Chief of the Philadelphia Fire Department, Joseph M. Clark, is typical of situations and the action taken in many other cities caught in the maelstrom: . . . "I arrived at the Fire Alarm room about 6:00 P.M. in the evening (Friday, October 15) and just about this time 'all hell broke loose.' Calls from people who were frantic, screaming for help, came in much faster than we could handle them. I immediately cut down all box and local assignments. My orders were that one company only was to respond on any call. I spoke over the radio and P. A. telling our officers and men-in-charge to call back, via radio, if more help was needed on arrival. In some cases it was needed, for we had several fires that we had to give extra coverage.

"The Special Service Section was in service with every truck they had, each one acting as a separate company. Many of their off-duty men had reported by this time and I set them up as companies. They took care of many locals (telephone alarms or stills). I had the Reserve Fire Force (auxiliaries) in service as Engine Co. 81 and gave them several locals. I had all other Reserve Firemen riding on the apparatus with the companies to which they are assigned. Orders were to leave a Reserve Fireman at the scene wherever possible, releasing the company for other calls.

"It is estimated there were 500 calls within a two-hour period. The situation seemed to ease up shortly after 9:00 P.M. We were not back to normal, however, until midnight, at which time I released all extra duty and Reserve Firemen.

"The Fire Alarm Room was the nerve center during this emergency. It could be likened to an army headquarters while a battle was raging. Only those who were there and saw it, could ever begin to understand the action that was going on . . . frantic calls from all parts of the city for aid . . . buildings collapsed . . . wires down . . . cornices hanging . . . steeples and crosses on churches dangling . . . loose poles and trees down; it was *terrific!*"

Canada Hard Hit

The hurricane vented particular fury on Canada. The real trouble began on Friday, October 15, and in the 36-hour period of rain, wind and flood that followed, fire fighters and other volunteer rescue workers labored ceaselessly to rescue the stranded, locate and remove the dead and injured, and set up defenses against the ravages of wind, flood and fire. The heaviest burden fell upon firemen of the Toronto area. On the morning of the 16th, 61 dead had been counted and approximately 300 were missing. Property damage was high in the millions. Worst of all, from the fire fighters' viewpoint, five volunteer firemen of the Etobicoke Fire Department had lost their lives, and their apparatus had been demolished.

The men were drowned as they were swept from their rig at the Old Mill Bridge on the raging Humber River. The firemen were answering a call that a car had been stalled by the flood on River Road. A sweeping wall of water smashed over their truck, carrying it and the crew aboard it into the river. The dead were Deputy Chief Clarence Collins and Firemen David Polmateer, Angus Small, Frank Mercer and Roy Oliver. Four other members of the crew narrowly escaped death as the truck rolled under the water. They heard the cries of their mates as they were swept downstream. Fireman Jim Britton suffered shock and Chief Bill Bell received a head wound. Marsh Polmateer, brother of the dead fireman, was hospitalized. The only member of the crew to escape was Jack King.

Photo courtesy Star Newspaper Service

Three firemen have worked their way to what was once the Kingsway-Lambton fire truck, which carried five Etobicoke fire fighters to their death in the wild Humber River near Weston on October 15. Wrecked rig was carried nearly a mile downstream.

The Kingway-Lambton crew and truck were called Saturday, Oct. 16 at 1:00 A.M. to go to a refreshment booth located on the River Road about one-half mile south of Dundes Street. The unit, with Chief "Tiny" Collins in charge, responded and had successfully removed people from the refreshment booth when cries were heard from three men atop a car further down the road. This was about 2:15 A.M.

It was in the effort to reach these victims that the truck—an International, 500 G.P.M.T.C. vehicle, was caught in the wall of water.

Polmateer said that Fireman Mercer was following the fire truck in his car when rising water hurled it ahead and onto the back of the fire apparatus. "The fire truck kept slipping, every time it backed up and tried to push the car away," Polmateer said. "When the road washed out, three of us hung onto the side as the truck rolled." Later, Polmateer said, he got a rope and threw it to Mercer who was sitting in his car with the window still open. "I told him to jump out and we would pull him to safety, but he seemed afraid," said Polmateer. "The water was getting near the top of the car," he continued, "so I had to pull. Mercer came out of the auto all right but must have let go of the rope. He was washed away. We couldn't grab him."

Fireman Mercer clung to a tree but could not be reached. A call for additional help was dispatched and police and volunteer rescue workers sped to the scene. A boat was skidded down the steep and slippery ravine but it was swamped in the fast current. A human chain was then formed in a final desperate effort to reach Mercer. The men were within only a few feet of him when a high wave swept him from their reach.

Rescue operations then were centered on reaching the four men of the truck, but before this could be accomplished, the surging water, estimated by some at 30-foot crest, carried away apparatus and men. Several of the latter managed to work free from the vehicle by kicking off their boots and coats and they attempted to hold to trees or brush in the torrent, but before they could be reached by rescuers they, too, were caught in the maelstrom and swept downstream.

With an eighty-mile wind and rainfall heavier than at any time in the last half century, Toronto was virtually cut off from its suburbs. Roads were blocked; wires down; power and light and telephone service cut off. The Bradford Volunteer Fire Department threw up sandbag barricades in an attempt to stem the onrushing water threatening Highway 88. The men, under Chief Ed Gapp, worked throughout the night. That night some 600 persons were brought in by rescuers.

The hub of the trouble was the suburban Toronto area. And Toronto firemen were in the forefront of it. More than 100 citizens owe their lives to these men, according to press reports. The fire fighters' troubles began at 11:45 P.M., Friday, when the first Toronto fire truck in charge of Captain Percy Stewart went to East York to rescue motorists whose vehicles had been swept into the boiling Don River. Nine other fire units were dispatched by the fire alarm office to various suburban communities. By this time news of the Etobicoke disaster had become known, but no fireman faltered in continuing rescue operations.

At 1:25 A.M. Saturday, Weston Police called for help and Deputy Chief Len Leigh took command of one hose truck and a 75-foot aerial ladder from the Keele Street Station. Between 1:30 and 6 A.M., the Toronto rigs had rescued more than 60 persons. Many of these rescues were made with the aerial ladder, in which all the safety rules of operation were discarded. Deputy Chief Leigh and Captain Fred Rose threw away the rule book. With two feet of water tugging at their wheels and braces, and the wind and rain driving around them, they manoeuvred their aerial into an almost horizontal position and extended the fly sections. Guided by shouts and spotlights, they began to

pluck people from roof tops, cars, trees, chicken coops, and everywhere they could find them. With Captain Rose perched far out on the tip, the aerial lifted two children through a second-story bedroom window of one house; pulled a hysterical woman from a tree when she was up to her neck in water; grabbed a motorist just as his car was sucked out from under him. In the words of some survivors: "They were everywhere, thank God."

About 3:15 A.M. a call was received to rescue a man hanging onto a tree on Old Mill Road at the Humber River. He had been swept from his car by the current. Fire units from Kingsway, Alderwood and York Township and New Toronto converged on the scene, with the Life Saving Patrol of Toronto. The new Toronto aerial was used to get a line around a tree near the endangered victim, and this line was attached to a boat which was allowed to drift down with the current. The rescuer in the boat then managed to reach and remove the trapped autoist.

Life Gun Used Many Times Over

One piece of life-saving equipment not often called into use, but which did valiant service during the disaster, was the snub-nosed life gun. This was used to fire life lines to stranded persons, who then hauled out a heavier line over which they made their escape. Chief Leigh, Captain Rose and their 14 men repeatedly used the life gun to reach persons who otherwise were beyond help. As they worked through the night, other members of the force went into action.

At 2:26 A.M. Captain Stewart from Pottery Road reported that he, too, needed an aerial. Captain Bill Mitchell and the 100-foot ladder were dispatched from Adelaide Hall. And again the rule book was ignored as the long aerial was extended out to snatch motorists from cars and bushes in the Don River.

Again at 3:46 A.M., the call came for still another aerial. This time, District Chief Sam Wilkinson was sent with an 85-foot aerial from Gerrard Street Hall to Cambridge Ave. in East York. There they lifted seven marooned men and women to safety. So the struggle went on through the black night. After that came the gruesome task of searching for bodies. It began at about 10:00 A.M. with 100 volunteers, who, incidentally, had just finished a full night's work. They waded into the floods in Etobicoke where they found the first body. Grappling hooks, life guns, ropes and other gear were called into play. One fireman, Jack Chambers of Gerrard Hall, the proud possessor of an outboard motor, spent most of the night and following day in the rescue operations in Etobicoke, with three other firemen aiding him.

Two women and a man were removed from the roof of their house above the swollen Humber River, by a team of firemen, policemen and volunteers, who formed a human chain across 20 feet of running water to reach and rescue the three. Sometimes the rescuers weren't so fortunate and were forced to see the objects of their rescue efforts slip away into oblivion.

Other localities suffered as well as the Toronto area. At Ottawa, a man was killed when he touched a 22,000-volt power wire that had been blown down. Twenty miles west of there, two airmen died when their jet crashed in the storm. The house of one couple was swept into Lake Erie, but rescuers saved them by means of life lines. A plastic clothes line was used by still other volunteers to remove six people from the wreckage of their home.

Meanwhile the Ontario Fire Marshal's Office was busy. At 10:00 A.M., Saturday the 16th, a request was received via Major K. B. F. Smith, Ontario Civil Defense Coordinator, from the Etobicoke Fire Department for one of the CD pumpers to replace the one which was lost with five crew men. A FMO pumper was taken from Toronto and located in the Kingsway-Lambton Fire Station with four volunteer firemen. A call was received to pump out the basement of the Skyline Hotel, which was being used as a reception center. This operation was done by Inspector Tuenbull and Martin Hurst, assistant Deputy Fire Marshal.

At about 5:00 P.M., fire equipment from the "ploughing match" arrived at the Royal York Road Fire Department in Etobicoke and the quad and panel truck were placed in service with the Etobicoke Department in the Thistletown area. The Marshal's Office also set up a short-wave radio network, using all of the FMO base stations and mobile sets to link Etobicoke Fire Headquarters with the Thistletown area, for all communications were by then out. Later the Provincial equipment was fully manned by Etobicoke fire fighters.

By the 18th, two of the bodies of Etobicoke firemen had been found. Soon after another body was secured. Two are still missing as this is written.

Lessons Learned

If the hurricane tragedy served any useful purpose, it was to emphasize the need of (1) ample reserves of life-saving apparatus and equipment including illumination, and (2) the training of fire fighters (and others) in all the many kinds of rescue work incident to such operations.

Finally, and most important, all the "alphabetical" hurricanes of late summer and fall served to emphasize the vital need of two-way radio, in all forms, including walkie-talkies, as well as public address systems, loud speakers—and last but not least, reserve emergency power and lighting plants.

Films on Water Fog Tests Prove Successful

Two films are much in demand these days by fire schools, colleges and various fire service organizations and groups. They are "Using Water Wisely" and "Master Spray Stream Problems."

They constitute photographic reports of the Exploratory Committee on the application of water which is sponsored jointly by the Fire Department Instructors Conference and the Fire Service Training Association and is composed of fire chiefs, instructors in firemanship and fire protection engineers.

Emmett Cox, Senior Field Officer, Fire Prevention Department, Western Actuarial Bureau, Chicago, and Vice-Chairman of the F.D.I.C., is chairman of the committee. All of the photography is by members of the photographic subcommittee of which C. N. Clanton, Assistant Chief Engineer, Kansas Inspection Bureau, is Director.

The firm was edited and scripts written by the sub-committee, and all material turned over to Steve Smith Pictures, Route 6, Topeka, Kans., for completion into regular optical sound 16 mm. motion pictures, and for distribution of the films.

"Using Water Wisely" covers the activities of the Exploratory Committee from its inception in November, 1951, to January 1, 1954. During this time the committee activities were confined to relatively small fires, and fire fighting methods were chiefly spray nozzles on hand lines, booster lines and 1½-inch hose being used in all cases. The film includes shots of tests conducted in a special test building in Miami, Fla., and dwellings in Missouri, Tennessee, Oklahoma, Iowa and Kansas. In all these tests the committee had the full cooperation of the local fire chief and his aides. In these tests the quantities of water used on indirect application to control the fire and for final extinguishment were determined and recorded. The film is narrated by George Gow of radio station KANS, Wichita, Kans.

"Master Spray Stream Problems" reports the large scale fire tests conducted July 8 and 9, 1954, at Kansas City, Mo. Through cooperation of Francis Wornall, Director of Fire, Kansas City, Mo., a four-story and basement wood joisted brick building, about 120 ft. by 50 ft. was obtained and loaded with all types of combustibles to simulate conditions comparable to those found in general storage warehouses.

The Kansas City Fire Department, directed by Chief Ed. Grass, conducted the burning tests, which were observed and recorded by the Exploratory Committee. The tests involved large fires; the fire fighting operations were almost entirely by use of large spray nozzles on heavy stream appliances, deluge sets, deck guns, ladder pipes using large pumpers. The film is narrated by Emmett Cox.

Both of these films are in color and each runs approximately 20 minutes. The fire scenes are spectacular and have been found useful for fire department exhibitions at civic club and other meetings to further good public relations. The Exploratory Committee does not consider the films to be training material but they serve to promote interest everywhere in water fog and spray stream fire fighting and provide a basis upon which local fire departments and schools can conduct their own tests and training.

Distribution of these films is handled by Steve Smith Pictures, Route 6, Topeka, Kans.

Fire Captain Rescued at Store Fire

A Bakersfield, Calif., fireman, Acting Capt. Don Cochrane, was rescued by fellow fire fighters on October 8 after he was overcome by smoke while fighting a fire in the basement of Brock's Department Store.

Four city fire companies battled the blaze for four hours before bringing it under control.

Capt. Cochrane was taken to Mercy Hospital for treatment. His condition was reported not to be serious.

CLIFF DEKTAR

FIRE SERVICE PROMOTES 1954 FIRE PREVENTION WEEK DRIVES

Some Highlights of Municipal, Military and Industrial Campaigns That Made the Headlines

A Staff Report

THIS year's Fire Prevention Week showed an increase in effort and enthusiasm, if we are to judge by the evidence sent FIRE ENGINEERING.

The editors regret that lack of space precludes publishing all of the contributions in this brief review. To those whose offerings were omitted or curtailed, our regrets.

Tucson F.D. Combines Training with F.P. Promotion

The Tucson, Ariz., Fire Department under the direction of Chief J. H. Freeman and Training Officer L. F. Peterson, in observance of Fire Prevention Week, combined a training program for firemen with a public demonstration in fire fighting.

The Department secured permission from the Mayor and Council to use the condemned two-story, adobe City Hall Annex, built in 1880, for their demonstrations. The public and reporters from the press, radio and TV were invited to the two scheduled demonstrations.

Actual fire conditions were simulated by setting fires in the building and allowing a considerable amount of preburn time before extinguishing operations were started. The demonstrations and training on fire fighting operations included hose lays, ventilation, ladder evolutions, advancing hose lines, use of the aerial ladder, descending ropes with life belts and net jumps. The basement of the building was used for gas mask training and the two-story section for training in the use of ropes, ladders and advancing hose lines.

In addition to the actual fire, departmental supervisory personnel gave talks and demonstrations before civic groups and schools on fire prevention and aspects of fire fighting. An open house was held at the central fire station to acquaint the public with the equipment and its use.

It is believed that the demonstrations, in addition to their training value, helped to create a greater interest in the Fire Prevention Program as well as to better acquaint the public to the activities of the Fire Department.

Relics Make Interesting Displays

A compelling feature of Fire Prevention Week has always been the tie-in of window and store displays of historical and other interesting fire fighting relics with other F. P. promotional activities. Many fire chiefs bemoan the fact that they are unable to develop this phase of fire prevention promotion because of lack of "stage properties." In other words, there isn't sufficient historical material available for the displays.

Fire service display of Captain Jack Henry, at Arcade, Calif.

An example of how the fire department can make good use of such material was found in Sacramento, Calif., where a unique collection of fire service uniforms, badges and other paraphernalia owned by Captain Jack Henry of the Arcade Fire Department near Sacramento was put to good use.

Included in the display, which occupied the main windows of a leading local store, were replicas of British firemen of several decades ago; current dress of British chief officers; helmets and dress caps from different foreign fire services; a Japanese directional lantern, and several hundred fire-force insignia.

Tucson fire fighters stage a fire in an old adobe structure.

Armed Forces Join in F.P. Drive

This year, as in previous campaigns, the several branches of the Armed Forces lent their support to the fire prevention movement.

One of the notable achievements in this field was that of the Boston Army Base which, in the past five years, has received citations four times. Last year the Base finished seventh in the N.F.P.A. competition among military installations.

Chief William Blake, head of the Fire Prevention Branch of the Base, has directed the past F. P. Programs. This year, again, the Base personnel were thoroughly briefed on fire prevention and given demonstrations by Boston Fire Department personnel, which included exhibits of fire fighting equipment; motion pictures and speeches by qualified personnel and various exhibitions of fire control and rescue work. Boston's fireboats staged a colorful display of their water-throwing prowess, using various colored water.

A special program was held at the Army Base on Oct. 5th, when an exhibition drill by Boston firemen was followed by a concert by the Boston F.D. Band. Boston's Fire Commissioner, Francis X. Cotter, and other officials joined in the ceremonies.

Navy Commands Cooperate

Another one of the branches of the Armed Forces to put steam into F.P. Week promotion was the Potomac River Naval Command. Participation in the national campaign was urged as an important part of the Navy Fire Protection Program.

A. H. Benson, District Fire Marshal, issued a Headquarters Study Bulletin on *"Facts About Fire"* which related the national drive to the Navy's needs, and touched on such subjects as Fire Prevention Strategy; Combustibles and Sources of Heat; Spontaneous Heating; Common Hazards; Modern Fire Departments and Fire Department Inspections.

Most of this data could be called "good training material" for Navy personnel.

Memphis F.P. Rally Interrupted

The Mississippi riverfront at Memphis, Tenn., was rocked by a series of explosions on October 2, during a municipal fire prevention demonstration which was being held close by.

One person was missing and two were hospitalized as flames swept ten barges loaded with 140,000 gallons of fuel oil.

The first explosion, shortly after noon, occurred while the city (one of the most consistent of prize winners in the long history of Fire Prevention Week Contests), was in the midst of its Fire Prevention Week celebration.

High school bands and other paraders were marching along Main Street in downtown Memphis when radio and Television Stations carrying the parade suddenly broadcast the alarm for firemen in line of march to report to the fire scene.

Fire apparatus in the parade was detoured out of the line and sped down the riverbank to the scene, where they joined their fellow firemen, who had responded on the first alarm, in combating the stubborn, threatening blaze.

Three firemen were overcome by smoke and two other persons removed to hospitals suffering from burns. On the way to the hospital, the ambulance carrying the three fire fighters was involved in a wreck, critically injuring the three men.

How Walla Walla Worked It

In Walla Walla, Washington, and at the huge Veterans Administration Hospital, Fire Prevention got a big play this year.

What's the purpose of fire prevention, youngsters in a rural school near the city were asked. *"That's the day the firemen work,"* answered one youngster. *"No, that's the day the firemen are on parade,"* answered the other.

But under the inspiration of Chief Frank Maddux of the Veterans Hospital staff, Chief Jim Hale and Capt. John Herring of the Walla Walla Fire Department, neither the youngsters nor their elders were permitted to forget F.P. Week for one moment during the period Oct. 3-9.

The College Place Volunteer Fire Department added its bit in conducting fire extinguishing demonstrations at the schools, giving students opportunity to practice evacuation. At the Hospital all employees were given a 6-day program of events, beginning Sunday, to carry through to and including Saturday. This included F.P. promotion even in religious services; lectures; demonstrations on first aid fire fighting; good housekeeping; evacuation drills; inspections, group meetings, etc.

Folks around Walla Walla, Wash., today are more familiar with fire, its hazards and the need of preventing it, as well as what to do if it should come, than ever before. They are also better informed about their fire forces. That much has Fire Prevention Week promotion done for the particular area.

Fire department aerial ladder raised at Infirmary Ward, Veterans Hospital at Walla Walla, Wash., during Fire Prevention Week exercises.

This "action" display by the Celriver plant of the Celanese Corporation of America (Calvin A. Williams, Fire Chief) drove home fire safety during this year's Fire Prevention Week effort. The arms of the "mechanical fireman" moved up and down, pointing to the "causes of fires."

Fire Prevention Week Shorts

PUERTO RICO—As usual, Chief Raul Gandara, head of Puerto Rico's "Servicio de Bombers," staged a dramatic drive during F.P. Week. A feature was the dropping of thousands of informative leaflets by aeroplane over inhabitated areas. These bore fire safety messages. Others were enclosed with bread wrappers, laundry and store parcels—any, and used in every way to get the F.P. story into the home.

OHIO—Printed promotion issued by the Ohio Fire Marshal's Office, Charles R. Scott, Fire Marshal, warned on specific hazards, such as burning of leaves, use of Hallowe'en decorations and costumes, and the firing up of the heating systems. Instead of the usual generalities, press releases offered definite "cures" for preventing such fires.

LOS ANGELES—A high spot of Fire Prevention Week activities in L.A. was the canvass of their respective neighborhoods by 60,000 elementary and parochial school youngsters in the effort to discover and correct potential fire hazards. Incinerators got a special going-over. Featured were 5th and 6th graders of the L.A. Junior Fire Department.

NEW YORK—It takes a lot of doing to wage a successful F.P. Week drive in New

Youngsters had a part in the Gardner, Mass., Fire Prevention Week activities.

York City, but the world's largest fire force went to it, with the aid of school teachers and their charges, radio and TV Stations, a cooperative press and assists from other municipal agencies. Radio inspections played a big part.

BORDEN COMPANY—The Borden Company set a fast pace among industrials in promoting F.P. Week. Besides putting "Elsie the Cow" to work, the Safety and Fire Prevention Department utilized every available form of printed promotion. Clever cartoons helped to get the fire safety story over, under the general slogan: "Flameproof Your Future."

NEWTON, MASS.—Lieut. Lawrence Clark, in charge of Fire Prevention, Newton, Mass., Fire Department, threw his 30-year-old collection of rare fire apparatus models and historic museum pieces into his city's 1954 F.P. Week campaign, to gain much publicity for the city and its Fire Department.

GARDNER, MASS.—The small fry were used to cook up a hot F.P. "feast" in this city when the kids got rides on fire apparatus, visited fire stations, donned firemen's garb and paraded before their fond parents. Chief James F. Casavant tied in fire prevention with promotion of his organization, featuring an emergency truck, built by the fire fighters themselves.

PHILADELPHIA—The Philadelphia Fire Department, keyed much of its 1954 F.P. effort to a special reprint of FIRE ENGINEERING's article about the Reading Terminal Fire (September 1954 issue) in that city with a special FIRE ENGINEERING facsimile cover. Exercises opened October 4 at noon with commissioning of a new Maxim-Magirus ladder and continued apace with demonstrations, parades, publicity and promotion in the effort to again win top honors in the national contest.

Sixth Annual Conference of New York State Instructors

The Sixth Annual School for Fire Instructors of the State of New York was held October 10 to 16, 1954 at Rochester, with over 118 instructors in attendance.

The five-day training sessions were conducted by the Bureau of Fire of the Division of Safety as part of the Bureau's firemanship training and mutual aid program that has brought basic, intermediate and advanced training to 50,000 of the State's large army of volunteers in over 60 of the State's counties. Instructions are given the men, who represent every County in the State, in the Bureau's new training programs, and courses for the coming twelve-month as well as refresher studies to further the basic and other training of volunteers who have not previously taken the courses, are outlined. Instruction and teacher training is given under the direction of B. Richter Townsend, Chief of the Bureau, and Dr. Leonard C. Silvern, State Training Coordinator. Assisting are the Bureau's six field representatives.

Sessions were held in the Powers Hotel, and in the City's new Fire and Police Academy, Scottsville Road.

On October 12 the trainees witnessed a dramatic demonstration of mutual aid response put on by Monroe County fire fighters. Over 500 men from 50 volunteer companies answered an "alarm" from the Fire Academy, some responding over 30 miles through a hard rain. Arriving at the Academy, they fought various types of fires in chemicals, plastics, oil storages; made rescues, and threw up a curtain of water as defense against a simulated fire storm. Operations were directed by Rochester Deputy Chief in charge of County Training, Ambrose Foos.

The State Fire Advisory Board met in Rochester on the 14th, and attended the Annual Instructors Dinner that evening. Chairman of the Advisory Board is former Chief of Jamestown, N. Y., Rudolph Swanson, now heading the State Civil Defense Research. A member of the advisory board, Chief Roi Woolley, of Fire Engineering, was the speaker at the Dinner.

The advisory board reviewed the Bureau's plans for the coming year and discussed its revised "Guide to Fire Training," and the "Guide to Fire Mobilization and Planning for the State of New York," as well as lesson plans for advanced officer training, single company operations, etc.

The Fire Advisory Board will be the guest of the National Board of Fire Underwriters for its February meeting.

Boxboro, Mass., Volunteers Reorganize

Following the recent delivery of the town's first fully equipped piece of fire apparatus, a 1000-gallon tanker with high pressure fog equipment, a reorganization meeting was held, at which time new constitution and by-laws were adopted.

Alfred Robinson was re-elected chief, Lin. Vinal and Frank Lyons were elected deputies; also elected were thirty active members. Under the new by-laws, a system of fines for non-attendance at fires, drills and meetings is provided.

The town of Boxboro was incorporated in 1783, shortly after the revolutionary war, and still remains strictly a farming and residential community.

HENRY T. HANSON

Photo courtesy Schenectady "Gazette"

A 50-year-old hearse was pressed into service by the Schenectady, N. Y., Fire Department (Edward M. Moffett, Chief) to dramatize its Fire Prevention Week parade.

Navy Tests Underwater Use of Demand Type Rescue Equipment

Early this year the Army-Navy Air Force *Register* (January 2, 1954), published an account of how firemen can double in brass by becoming divers. This described demonstrations conducted by Lieut. James K. Martins, MC, U.S. Navy, who donned a fireman's Air-Pak unit and dove off a pier into New York harbor. Forty members of the New Jersey State Fire Chief's Club were present as the doctor performed various maneuvers under 35 feet of water. Five minutes later, soaking wet, he climbed back on the navy pier and said "Almost any fireman can use equipment which is standard on most fire trucks to make emergency underwater rescue of persons in vehicles which have run into a river or lake."

Dr. Martins, in the article in question, while detailing the advantages of this type equipment in an emergency, nevertheless pointed out that use of the equipment by untrained men is dangerous. He said that proper instruction and procedures must govern its use even in emergency and that every precaution must be taken. He suggested in his paper that diver teams be organized in fire departments.

After reading Dr. Martin's paper, members of the U. S. Naval Station Fire Department, Newport, R. I., became interested in the theories and possibilities expressed by Dr. Martins and decided to hold their own experiments in a swimming pool at the Naval Base.

At present the Base Fire Department is training all men under 40 years of age in the use of the demand-type equipment for underwater rescue. Reports Chief Joseph P. Kerwin of the Base Fire Department, "We feel that the experience gained and the knowledge and confidence given the men will enable them now to assist persons trapped below water for a period of 5 or 6 minutes without injury to our men."

The Naval Station personnel, assisted by Mr. Cliff Adams, Chief Life Guard, Division of Parks and Forests, of Riverside, R. I., demonstrated various methods of rescue, the use of small type appliances for self-rescue and water safety methods.

Approximately 200 persons watched the demonstrations including fire chiefs and members of civilian fire departments from the Naval Station, City of Newport, R. I., City of Fall River, Mass.; Towns of Middletown, Portsmouth, Stone Bridge, Little Compton, East Tiverton, North Tiverton, Bristol and Warren, R. I. and Westport, Mass. The majority of these departments are members of the Newport, R. I., County Firemen's League.

Navy fire fighters were supervised by Asst. Fire Chief A. J. De Angelo, Chief Inspector, and former Navy diving specialist E. H. Bakersmith, and the Department drillmaster, C. Creaney. Navy Firefighters participating were: Fire Captains N. Heywood and E. Humphrys; fire fighters E. Pado, C. Humes, J. Toner, H. Ratcliffe, A. Samson and P. Kingsley, president of the R. I. Spearfishing Club.

Second Annual Arizona State Fire Training School

Approximately 320 men participated in the Second Annual Arizona State Fire Training School, held in Phoenix, October 14-15-16, 1954. Among these were Fire Chief Jahudiel Zamorano L. and three firemen from Hermosillo, Sonora, Mexico. Registration for the full duration of the School was greater than 1953.

Following indoor instruction, pump and engine fieldwork was conducted along the Arizona Canal. Four different pumpers were used by five Arizona firemen who assisted Hubert Walker, of the American-LaFrance-Foamite Corporation.

Metropolitan Fire Department, Rural Fire Protection Company, Wilson Fire District, and the South Phoenix Fire District combined forces on Saturday morning, October 16th, at the State Fair Grounds. These departments effected several water supply evolutions that might be employed wherever rural fire fighting measures are necessary.

Cooperating and assisting in the School were personnel from the City of Phoenix, Arizona Public Service Company, Arizona Fire Rating Bureau, Arizona State College at Flagstaff, Arizona State Department of Law, and the Phoenix, Tucson, Globe, Williams Air Force Base fire departments.

In addition to Hugh Walker, whose home base of operation is Elmira, New York, Loren S. Bush, Chief Engineer of the Board of Fire Underwriters of the Pacific, San Francisco, also served as an instructor. Questionnaires submitted by School conferees contained many comments indicating a desire for continuous year-round training assistance.

Newport Naval Base experiments in underwater use of air demand-type breathing equipment.

New York Features Precision Models of Old Apparatus

New York's Fire Commissioner Edward F. Cavanagh, Jr., recently opened to the public a special exhibition of two unusual models of New York type firefighting equipment at the Museum of the City of New York, Fifth Avenue, 103rd to 104th Street. These models were of hook and ladders, one horse-drawn and the other mechanized, and were built in the early 1920's by the late Captain John T. Fehl, who served with the Jersey City Fire Department for twenty-five years. Captain Fehl gave these models to the Museum shortly before his death.

The precision models are complete to the smallest detail. Present-day model builders create the individual parts by finishing up small castings or turning the parts on a jeweler's lathe, whereas Captain Fehl carefully filed each of his by hand. The task occupied his spare time for more than five years. The accuracy of scale and minuteness of detail was achieved entirely by visual comparison with the original apparatus, no blue prints having been used.

The earlier of the two models is a replica of a horse-drawn ladder truck considered the finest of its type in 1888. In those days there was no approved mechanism for raising or extending the ladders, the vehicle being used only to transport the separate ladders and accessory equipment.

The second model is far more intricate and unique in its construction. It is of an American La France Aerial Truck coupled with a Christie Front Drive tractor. The apparatus was originally horse-drawn, but in 1911 it was mechanized and was said thereby to become the first gas-driven hook and ladder equipment in New York City.

A brief description of this model is as follows: length 4'8"; width 7"; height 9"; 85" aerial extension; weight 56 lbs. It is equipped with progressive type transmission, brakes, disc-clutch, headlights, batteries, and switches. The turntable revolves and the aerial ladder is raised by a self-raising mechanism, having two independent kickoff devices. The ladder is lowered by hand. Every piece of the then up-to-date fire-fighting implements and tools carried on the big truck is found on this model.

A Correction

In the October issue of FIRE ENGINEERING (Page 891) a picture of a pumper operating in Naperville, Ill., was shown with a caption indicating that this apparatus was from Naperville whereas actually it was a reserve pumper from the Aurora, Ill., Fire Department sent to the scene to assist in the operation described.—P. J. HANNON, FIRE MARSHAL.

Telephone Vs. Fire Alarm Box

An Insurance Engineer Sheds Light on Current Controversy

By J. N. PRYCE*

"ARE your city officials squandering your money on an antique fire alarm system that doesn't protect you as well as you are led to believe?"

The foregoing is a direct quotation of the editorial preface of an article by Karl Detzer, carried in the October, 1954, number of "Reader's Digest."

In this article the author goes to great lengths to expose his views on the shortcomings and obsolescence of the well known and tried public fire alarm telegraph system. He extends himself to extol the superiority of a special adaptation of the telephone system making it available on a rental basis for the transmission of fire alarms and other emergency calls.

The article will undoubtedly bring about confusion in the minds of municipal officials and citizens concerned with the expenditure of tax dollars on fire alarm transmission facilities in their community.

It is regrettable that a publication such as "Reader's Digest" with its worldwide circulation and consequent great potential for disseminating information should carry an article that tends to create confusion.

To properly evaluate the views expressed in the article in palpably beyond the ability of the vast majority of its readers. There is little doubt, however, that the article will influence their thinking, particularly as its focal point is the representation that public funds are being squandered on obsolete and worthless equipment. Citizens at large are usually quite receptive to, and more often than not, easily aroused by an indication that their tax dollars are being ill-spent by unscrupulous or misguided civic officials.

Unsound Foundation for Argument

Considering the "Reader's Digest" article in its general aspects, it is apparent that the author has very definite propensities.

Amongst these are:

1. For the support of a practice of renting a telephone service for the transmission of emergency calls.

2. Of aversion to the public owned fire alarm telegraph system for transmitting alarms of fire.

3. Of conviction that the value of a system can be measured by the morals of the manufacturer producing the components of such a system.

4. To ignore the need for objective judgment in weighing the relative value of two competing systems.

Let us look at certain statements made by the author:

The article endeavors to make a telling point by quoting figures which indicate that from 65 to 98 per cent of all fires in the United States are reported by telephone..

It is not disputed that the telephone is being used on an increasing scale for reporting fires, although at present this use has not in the over-all picture, assumed the major proportion quoted.

In the article, no attempt is made to analyze the situation so that the reasons responsible for this trend can be understood.

It should become reasonably evident to all concerned that the greater proportion of fires reported by telephone do not emanate from street telephone stations but rather from those in buildings, mainly from residences. This of course reflects the wide use of the telephone service today and the convenience it affords. IIt must be realized that the telephone today is no longer a luxury and is rapidly becoming a necessity in the modern way of life. The test should be relative, comparing the number of street calls from fire boxes and from street phones, as against the total number of calls.

Failure of Cities to Expand Fire Alarm Systems Cited

A contributing factor in the greater use of the telephone for reporting fires is the failure of many communities to properly extend and modernize their standard public fire alarm facilities to a degree commensurate with post war community growth. On the other hand the telephone companies have, in the same period, extended themselves to provide their facilities throughout the communities, particularly in newly developed and expanded sections. This is purely a matter of good business policy on their part as they have a service to sell.

The "Reader's Digest" article makes capital out of the fact that the City of Miami, Florida, rather than face a capital expenditure to replace its fire alarm telegraph system, which, after many years of service had been allowed to become inadequate and obsolescent, decided to enter into a rental contract for a system of street telephone emergency call stations.

Of necessity, all fires in Miami must now be reported by telephone and despite the indication that wide use of the street call stations has resulted, no actual breakdown is made of this as compared to the use of private telephones within buildings for reporting fires.

A comparison of such nature should be enlightening as it seems reasonable to assume that any person within a building where fire occurs will report the outbreak to the fire department by means of the inside telephone facilities rather than go outside to do so from the nearest fire box or special street telephone station. This condition would apply particularly in residential areas where the head of the house would be loath to leave his family at the mercy of a fire while he goes to the nearest outside emergency outlet to call the fire department. This tendency would be even more noticeable at night.

There does not appear to be any real evidence to support the claim that the average citizen is more likely to report a fire from a street emergency telephone station than from a "red fire box."

Too Much Expected from Average Citizen

The City of Miami case is cited as an example to prove the many advantages of the street telephone type of fire alarm system. It is claimed that the person giving an alarm over this system can advise the fire department as to just what is burning and where. Relying on the information thus given, the department can adjust its response to suit the occasion, thus saving on mileage and general wear and tear of equipment.

It is difficult to accept as a conclusion that the average citizen, no matter how well intentioned he may be, is properly qualified to assess the nature of a fire, its potential to assume large proportions or whether the exposure created is, or will be, severe.

Curtailment of fire department response purely as a matter of economy cannot, as a rule, be regarded as good practice. If, at the outset of a fire, the fire-fighting, rescue and salvage operations are ineffective due to lack of sufficient equipment and manpower, much greater hazard to life and property is likely. Any attempt to justify such a situation in the light of a possible saving in wear and tear of fire apparatus and equipment is short-sighted. It is far better and safer to err on the side of having too much apparatus and manpower available at the outset of a fire. After the situation has been carefully sized up by experienced fire department officers, all equipment and personnel not needed can be ordered back to quarters.

The "Digest" article further explains that the street telephone fire alarm system in Miami successfully provides for the reporting of fires by persons unable to speak English, by those who become inarticulate under stress, or by those who do not wish to or cannot speak at all.

It appears that merely by lifting the receiver of one of the street emergency call telephones, an audible and visible signal is received at some central location, and means are provided for identifying the location of the telephone from which the signals are transmitted. It is assumed, however, that they eventually get through to the fire department but unless followed up by some under-

(*Continued on page* 1179)

*Fire Protection Engineering Department, Dominion Board of Insurance Underwriters, Montreal, Que.

FIREMEN AVERT CONFLAGRATION WHEN LUMBER MILL FIRE ERUPTS

Long Anticipated Fire Threatens Wide Area in New Rochelle, N. Y., Mutual Aid Pays Off

A Staff Report*

IN practically every American municipality there is at least one potential conflagration area. This particular district may not appear hazardous to the man-on-the-street but it doesn't fool the alert fire chief or his experienced fire fighters. Frequent inspections; checks on violations of fire prevention, building, health and other codes; installation of fire detection, alarm transmission and extinguishing equipment, may help minimize the fires that occur in that area and thereby stall off the fateful day but as long as the particular hazardous occupancies and properties remain, big trouble for the fire fighter is just around the corner.

Such a situation has existed in the City of New Rochelle, N. Y., for more years than some firemen can remember. To the layman, the area in question appeared little different than other mixed residential and commercial sections of the city. The houses and neighborhood shops had long since fallen into decay; small industries had crept in; warehouses and lumber yards along the railroad rubbed elbows with the unpainted, dried-out, frame dwellings, boarding houses and tenements. And if a parson looked carefully enough he saw a large frame plant, looming above its neighboring structures. This was (it is no longer) one of the city's oldest industries, the Hubbell Hardwood Door Company. This, as New Rochelle firemen knew, was the potential fire bomb of that potential conflagration area.

The plant and warehouse occupied four buildings, the largest being three-story, frame, located at the corner of Cedar and Spring Streets (see accompanying diagrams, and extending over half the block to River street. To the north of the Hubbell plant is the one-story concrete block and frame-roofed building of Alex Scott & Sons, heating and plumbing supply house. Across Spring street from the Hubbell warehouse is the two-and-a-half frame building of REC Corp. Extending beyond it, south on Cedar street, are rows of low-grade frame structures, ready for the torch.

Directly across Cedar street from the Hubbell plant are the freight yards of the New York, New Haven and Hartford Railroad, elevated on Cedar about 12 feet above street level. The entire area east of the block bounded by Cedar, Spring, Oak and River, houses frame dwellings, tenements, shops, a few industries, lumber yards and building supply warehouses, paralleling the New Haven tracks. On the other side of the tracks, on Cedar, is a large 5-story factory.

Three blocks West of Cedar is one of the city's main shopping streets, North avenue, crowded with various occupancies.

Such was the set-up at 5:00 P.M. on Tuesday, October 19th, when employees of the Hubbell plant left the mill. At about 5:10 P.M. an unidentified girl, passing the premises on Cedar street, saw smoke and flames and called into the Scott firm, next door "Hubbell's is on fire!"

The fire department clocked the first call at 5:16 P.M., to which Engines 1 and 2 and Ladder 1, responded, with Fire Chief Raymond C. Rumery and Battalion Chief Walter R. Bell.

No lengthy size-up was required by the chiefs to convince them that they faced the possibilities of a conflagration. The old structure, loaded with combustibles, was heavily involved; choking smoke blanketed the area, cutting visibility and the light wind out of the West failed to have any effect on this smoke.

A second alarm was sounded at 5:20, followed a minute later by a third. The second brought Engine 3 and Ladder 3, the Rescue Company and Fire Department ambulance. The call went out for return of all off-duty firemen. At the time, the regular pumper of Engine 3 was out of service for repairs and its place was taken by Reserve Engine 7. The third alarm brought Engine 4 and Ladder 2. Acting Battalion Chiefs Harold V. McAvoy and Thomas Carrigan, who were off-duty, reported to the Chief of Department.

Shortly after the third alarm, Chief Rumery called for another ladder company. At this juncture, the department had in service Engines 4-6, Reserve 8 and one Service Ladder Truck, which was soon manned by off-shift firemen.

To further complicate matters, trainloads of commuters were being unloaded at the New Haven Railroad depot, just West of North Ave., and their efforts to extricate their cars from parking lots, to get to the fire precipitated unprecedented traffic jams increasing the headaches of both firemen and police.

First attempts of fire fighters to fight the fire from the interior at the Hubbell plant met with failure, even with the aid of respiratory protective equipment. About 5:45 P.M., pent-up heat and gases from the burning lumber, and possibly the oil-burner, blew off the roof of the three-story warehouse where the fire originated (Spring and Cedar streets). Sparks flew high into the air, and radiated heat from the blast was felt as far away as North Avenue. Immediately the entire plant was aflame. So quickly was this involvement that many hose crews were forced to beat a hasty retreat, leaving some hose to the flames (all-told, 30 lengths of hose were damaged). Engine 2, which was nearest to the blazing building, at Cedar and Spring streets, was badly blistered but its plucky crew members kept up the fight. Power and telephone poles across from the building ignited, and threatened to drop power lines onto fire fighters.

At this juncture, according to Chief Rumery, the situation was critical and it appeared almost certain that the frame tenements to the North and East would go. The roofs of several were set afire, as was the roof of the Alex Scott building. The radiated heat jumped over the Scott structure to touch off a large frame house at 9 Oak street. Radiated heat, and flying embers also ignited other small buildings, including a garage and other properties in the rear of the Hubbell company and threatened to involve the railroad's freight yard. The wooden fence of the yard on Cedar street was scorched, as was the building of the REC Corp. across Spring street from the Hubbell warehouse.

Although forced to fall back momentarily, in their attack on the Hubbell plant, by the blast and surging flames, fire fighters quickly swung their lines to cover all possible exposures. But it was evident that more help was needed, and quickly.

At 5:49 P.M. Chief Rumery radioed his fire headquarters for additional help through the Fire Chiefs' Emergency Plan, the County's mutual aid organization. The New Rochelle dispatcher notified the County Fire Control Center,

*Acknowledgment: The editors gratefully acknowledge the assistance of Fire Chief Raymond Rumery of New Rochelle and George C. Clark, Secy., F.C.E.P., for material on which this report is based.

Photo courtesy New Rochelle F.D. and New Rochelle Standard-Star

New Rochelle lumber mill fire at its height.

who transmitted the call for aid to the pre-determined county fire forces. This brought Engines 9 and 10 (county designation) from Mount Vernon; Engine 32 from Eastchester, and Engine 68, from White Plains. Mt. Vernon's force arrived at 6:13-14 P.M.; Eastchester at 6:24 P.M. and White Plains at 6:16 P.M. Other areas were alerted and were ready to respond if called. No apparatus took off for New Rochelle without being asked, although numbers of volunteer firemen from Larchmont, and Mamaroneck, just east of New Rochelle, and the Pelhams and Mount Vernon, to the south, reported to assist, even though not officially called.

Deputy County Fire Coordinators Chiefs A. W. Denniston and Paul Gruenginger were located at the County Fire Control Center and directed mutual aid movements from that point. County Dispatcher George C. Clarke maintained liaison on the fire ground.

During the critical period of the fire, the City was protected by Engines 4 and 6, Reserve Engine 8 located in the quarters of Engine 1 and Reserve Ladder 4 located in Ladder 1's house. New Rochelle had a total of 150 men on duty. Mount Vernon's forces were commanded by Assistant Chief Wally Leggett; Eastchester's by Chief Robert White (and Capt. William Blackie) and White Plains by Lieut. Ray Brady.

One of the first steps taken by Chief Rumery was to order the evacuation of all families from the Oak, River and Cedar street homes. Power was ordered shut off on the Con Edison power lines and as rapidly as firemen could be found, they were directed to patrol the leeward areas to guard against flying embers.

At about 6:00 P.M., the entire Hubbell warehouse structure collapsed, endangering the lives of firemen operating close-by and badly charring the front end of new pumper No. 2 which could not be shifted in time.

The winds, which on one hand aided fire fighters by keeping the blaze from spreading to the railroad yards and freight tracks, sent flurries of sparks cascading over the tarpaper and shingle roofs of homes on Cedar street, starting small fires. Volunteers, many of them civilians, used portable extinguishers to douse these blazes and where one reached dangerous size, a fire company was called on to wet down the property.

Focal point of the fight was the roof of the Scott property, where firemen braved almost unendurable heat from blazing mahogany, oak and pine to wet down not only the roof but to set up water barriers against involvement of the houses on Oak street. Water curtains also were instrumental in cooling the REC firm's building.

Early in the fire, the New Rochelle Department encountered difficulty in getting water in sufficient volume from some of the hydrants in the neighborhood. The hydrant at Spring and Cedar streets was found to be defective, temporarily interrupting operations of Engine 2. Engine companies 9 and 10 from Mount Vernon had to relay water from North avenue and Garden street, a distance of between 1,000 and 1,500 feet to Eastchester Engine 32 on Oak street. These companies bore the brunt of the fight on the fire in the wooden tenements along Oak street—in buildings, incidentally, which had been condemned by the city. Engine Company 68 from White Plains connected to hydrant on River street near Hugenot, nearly 1,000 feet distant from their position on Spring street.

Chief Rumery did not attribute the failure of the hydrant on Spring street to low water pressure. One of the first lines hooked up, he said, was at the Spring street hydrant, and there was a "hit back" which might have been caused by pumping failure, a hydrant flaw or any one of several things. At the request of Chief Rumery, radio station W.F.A.S. went on the air to broadcast an appeal for citizens to discontinue use of lawn sprinklers, and conserve water.

As the fence rails along the freight yard ignited, some employees of the New Haven Railroad and American Express Company evacuated the area, leaving a watch to be kept over storages of gasoline, fuel oil and other combustibles in the yard.

The fire was declared under control by 9:00 P.M., and out at 2:25 A.M., the next day, October 20. One fire company was recalled to the scene at 3:55 A.M. to check on a minor rekindle. The property loss was estimated at in excess of $200,000.

Commenting on the battle, Fire Chief Raymond Rumery told a representative of FIRE ENGINEERING: "We have long been alive to the conflagration possibilities in the area bound by this fire. We were fortunate in having a light wind and being able to hold the fire where we did. We met difficulties in the heat and smoke; the crowds of curious attracted by the light of the blaze and movement of the many pieces of apparatus; the hazardous exposures. But we were fortunate in having a strong reserve of men and apparatus. Our practice of trying to duplicate all of our pumping equipment, and as much of our ladder equipment as possible, in reserve, paid dividends. During the course of the major blaze we had two other alarms, one at 6:01 P.M., which was found to be a needless call, and from which apparatus returned at 6:22 P.M., and the other at 7:04 for a fire at 321 Stewart Drive where Engine 6 promptly extinguished a fire caused by an overheated oven."

"We were fortunate, also, in having available our County mutual aid system, under the Westchester Fire Chief's Emergency Plan. We could have had all the additional reinforcements we could possibly use had we required them," the Chief concluded.

Although two hospital ambulances, and the New Rochelle Fire Department ambulance with the department's surgeon, stood by during the course of the fire, no fireman was seriously injured.

C.D. Conference Held in Atlanta

The Third Region Civil Defense Fire Conference held in Atlanta, Ga., Nov. 4 and 5 was attended by more than 200 Fire Chiefs, C. D. officials and others from 7 states and the Canal Zone. There were a number of city officials and industrial executives among those attending.

The Conference was sponsored by the Federal Civil Defense Administration, Region III, of Thomasville, Ga.; the Georgia Civil Defense Division, State Dept. of Defense; and the Atlanta Metropolitan Area, C.D., with Chief C. C. Styron of Atlanta as host chief.

The program dealt with all aspects of the latest methods of fire defense against attacks with modern weapons and emphasized the necessity for comprehensive advance planning. Featured on the program were four different panel discussions with plenty of opportunity for questions from the floor.

Under the Chairmanship of Elliott Jackson, C.D. Director for the Atlanta Metropolitan Area, the program included several nationally known speakers, these being Horatio Bond, Chief Engineer, N.F.P.A.; Col. William A. Brewer, Director of Tactical Operations Office, F.C.D.A.; and Chief Lloyd Layman, Director, Fire Office, F.C.D.A., each of whom was active throughout the program. About 33 southern Regional, State and Municipal officials also spoke. Two British officers of the Women's Volunteer Services for Civil Defense, Mrs. Charles Clode, M. B. E. and Miss Rita Lewis, told of experiences in London and Coventry during the "fire blitzes."

An interesting feature of the program was a demonstration of rescue work by members of the Atlanta Fire Department under Capt. C. H. Hildebrand Jr. using the partially torn-down Atlanta Theatre building as a "setting," which lent a realistic touch to proceedings.

SIDNEY B. JEWETT.

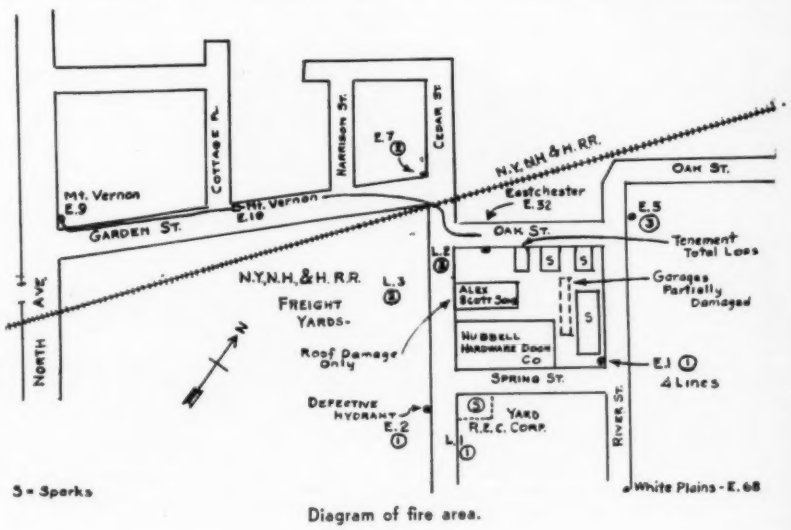


Diagram of fire area.

Protecting the Christmas Tree Against Fire

As the Yuletide rolls around, members of the Fire Servce say a silent prayer that this season no Christmas tree fires will mar a perfect Holiday.

For those chiefs who might have mislaid or forgotten the formula for making Christmas firesafe—at least temporarily, we pass along these recommendations of the National Board of Fire Underwriters and other authorities. And following that, we suggest the post-holiday public burning of all trees that can be collected (and that are so heavily "fireproofed" that they won't burn) as practiced in Colorado Springs and elsewhere.

Here are the suggestions:

Obtain a fresh tree and keep it outdoors until actually needed.

Cut the end of the trunk diagonally at least one inch above the original cut end, stand it at once in a container of water, and keep it cool by sprinkling the branches with water from time to time until bringing it into the house for trimming.

After the tree has been brought inside, erect it in a stand that has a reservoir of water in which the trunk may be set. (Lengthwise saw cuts in the base of the trunk will help the tree absorb water.) It's important, that the tree be well supported to prevent tipping and away from fireplaces, radiators, heating stoves, radio and television sets, or other sources of heat. Keep the room as cool and moist as possible.

In decorating the tree, the National Board advises use of decorations which are not flammable. Also, toy trains, motors or engines, it says, should not be operated under or near the tree. Use only electric lights, making sure that all cords are in good condition and not frayed. Only electrical devices, such as tree lighting sets, decorative lighting outfits and extension cords that have been inspected and comply with safety standards of Underwriters' Laboratories, Inc., should be used. These may be identified by UL tags atached to the conductors or by UL markings on the cartons.

Do not leave tree lights burning when no one is in the house. From time to time inspect the tree and see whether any of the needles near the lights have started to turn brown and, if so, change the location of the lights.

If the tree is to be kept up for a few days longer than usual, don't keep the lights on for more than a half-hour at a time. When the needles start falling, take the tree down and discard it.

If any decorations are used about the house, do not permit them around or near chairs and other places where people may smoke. It is preferable to have such decorations close to ceiling, well above the head of persons standing up.

If lights are desired in windows, never use candles and of course keep curtains and other flammable material pulled back at least six inches from any light.

In hotels, churches, hospitals and other places of assembly, and in hallways of offices, the location of the Christmas tree is of vital importance. It should never be placed near any stairway or elevator which would provide an upward draft nor should it be near entrances or otherwise block exits. It's also important that all doors leading to other parts of the building, particularly those doors leading upstairs, be kept closed.

The Christmas tree above, still standing in the Nellis (Nevada) Air Force Base officer's club after a $100,000 fire completely gutted the facility, was fireproofed by the fire department of the installation. The solution applied to the decoration, composed of one-half pound of boric acid powder, one pound of borax in one gallon of water, withstood heat which melted some of the decorations and the tree's light wire.

Flameproofing Christmas Trees

Many solutions for flameproofing Christmas trees have been advanced over the years and some undoubtedly are effective, to a degree. But most authorities place little credence in them and instead, urge the procedure contained in the foregoing.

The National Board of Fire Underwriters (Special Interest Bulletin #240) has this to say:

"The idea is more or less prevalent that Christmas trees may be rendered flameproof by a treatment or application of chemicals or by standing the trees in solutions containing flameproof chemicals.

"It has been found that trees which have stood in plain water retain resistance to ignition by small flames longer and remain green and flexible for a greater time than either dry trees or trees treated with some flameproofing chemicals.

"There are available various fire-retardant coatings and chemical solutions that may be used that will, to some degree, retard flame spread when applied to Christmas trees. Their application may result in the loss of the natural color of the foliage, which also often becomes dry. Some coatings are of the transparent type. The coatings may be applied either by dipping or by spray. In some instances the application requires some professional skill and equipment. On the other hand, however, the general application of flameproofing materials by an individual may be done, either proficiently or in an amateurish, inept manner. Because of this, it is difficult to know what degree of fire-retardance is obtained following such flameproofing treatments.

"Unless the approval of chemicals and the treatment processes are under strict supervision of fire authorities, the effectiveness of such flame-retardant treatment may be questionable.

"Although experiments with various materials of known fire-retardant possibilities fail to disclose a chemical superior to water, it is not impossible, of course, that suitable methods of effectively flameproofing Christmas trees may be developed. But for the present, at least, persons who so treat their Christmas trees to render them flameproof should use all the ordinary precautions to prevent ignition and should not depend too much on the effectiveness of these processes."

The Forest Products Laboratory (1947) urge sawing off freshly cut Christmas trees at an angle at least one inch above the original cut end and keep the trees

standing in water during the entire period they are in the house, adding water to the container in which the tree stands at intervals to keep the water level above the cut. "This method when used with fresh trees reduces the flammability as effectively as any chemical" according to this authority.

The National Fire Protection Association (Handbook of Fire Protection, 11th Ed.) states "Flameproofing solutions of ammonium sulphate tend to discolor the needles of spruce and balsam, and the needles of spruce fall off the tree. Trees are sometimes sprayed with sodium silicate (water glass) to reduce flammability, but this materially changes the appearance of the tree."

In this connection it is interesting to observe the accompanying illustration of a Christmas tree that failed to burn in a $100,000 fire in the Nellis Air Force Base Officers' Club which completely gutted the facility. This tree had been "fireproofed" by the fire department of the installation. The brief account submitted this Journal stated that the solution applied to the decoration was composed of one-half pound of boric acid powder and one pound of borax in one gallon of water. The method of applying this solution was not given, but the Office of Information Services, Nellis Air Force Base, Nevada, states that the base department treats all decorations and curtains in the base in addition to covers used in aircraft cockpits during blind flying.

For a Safe Post-Christmas

A Christmas tree is a beautiful symbol of a merry time of the year for children and grownups. But by fire fighters, a dried-out, resinous tree inside a house, church or other occupancy is considered only in the light of a severe fire hazard to all those within the occupancy.

Acting on the theory that it is better to prevent fires than to have to fight one already started, last year the Colorado Springs Fire Department undertook a campaign to collect and dispose of Christmas trees that have served their prime purpose, thus eliminating them as post-holiday hazards.

It was decided to combine this with a spectacular display that would at the same time provide some publicity and education on the score of fire prevention.

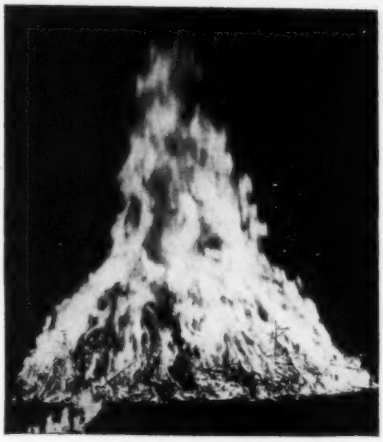
The plan was to collect the trees into a large pile for burning and to hold a sort of public bonfire.

With the aid of newspaper and radio cooperation, all residents of the Pikes Peak region were urged to bring their Christmas trees to the dry bed of Prospect Lake, which had been selected as a safe site for the super bonfire.

The program was aided by members of the volunteer fire departments of surrounding communities including Ivywild-Cheyenne Canon, Manitou, Broadmoor, and Knob Hill. The trees were brought to the lake bed where members of the Colorado Springs Fire Department, under the direction of Chief Fred Lausch, worked on days off to build a gigantic pile.

Premature ignition of the pile by irresponsible boys was feared and prevented by vigilance of the firemen who guarded the small "mountain" every night.

A practical joker attempted what might have been a ghastly incident, for a tree with a practice grenade was added to the pile. Luckily the alert firemen constructing the pile spotted and removed it, then detonated the grenade at a safe distance.



Flames rise over 100 feet from huge pile of Christmas trees near Colorado Springs. Approximately 15,000 persons witnessed the spectacle.

At 7:00 P.M., on January 6, 1954, Twelfth Night, an absolutely still evening, the "hazardous mountain" was lighted by City Manager John Biery and the crowd, estimated at 15,000, was rewarded with an unusually spectacular bonfire.

The townsfolk were impressed by the blaze and, in fact, by the entire program, and expressed hope for a repeat performance with even more ceremony and perhaps group singing this year.

Note: The idea of a "public burning" of hazardous holiday decorations to both rid the community of the potential threat to life and property, and to serve as an educational enterprise, is yearly being undertaken by many communities. It is only necessary to point out that, like Colorado Springs, the operation should be conducted by and under the direction of the fire department which will of course consider exposures, flying embers and so on.

Thanks LESTER WILLIAMS, M.D.

Blue Shirted Santas

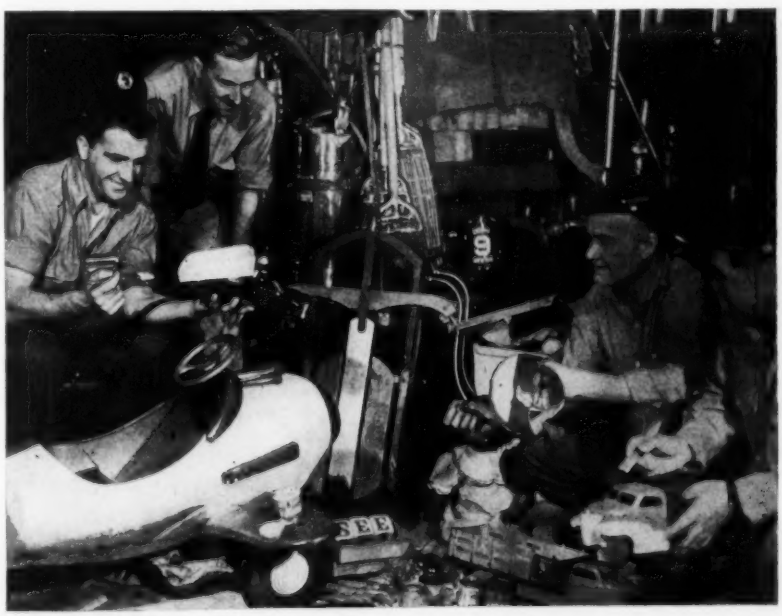
Every year throughout the nation, the number of Santa Claus helpers who wear the insignae of the fire service grows. This year is no exception. Since early Fall, fire fighters, permanent and volunteer, have become clearing houses, repair shops and supply depots for Children's toys. Some have been at it all year!

Firemen do many humanitarian deeds besides fight fires and make rescues, as witnessed by the current promotion of the program to fight muscular dystrophy being waged by the fire service, but the project to see that all kids get toys at Christmas time is universal and permanent.

With or without the aid of local citizens, service clubs, retailers, manufacturers, professional folk, charity and church workers, more and more fire stations throughout the country are becoming storehouses and toy shops for Santa Claus.

A number of communities further this work by setting up "Christmas Service Committees" or "Community Christmas Service Committees" which assist the fire department to collect the old toys, materials for their rehabilitation, and to deliver the rebuilt products; also to locate the needy youngsters and to find the funds for the projects.

Such an enterprise yearly is conducted by the Newton, Mass., Fire Department



Newton fire fighters repair and repaint toys to make Christmas a happy one for underprivileged children. Fred Caruso of Engine 9 puts a finishing touch on a toy truck, as Sam Rizza and Jim Coffey admire his handiwork. Toys donated by residents throughout the year are made "good as new" by men in all Newton fire stations as a spare-time project.

where, the lads of Engine 9, pictured in the accompanying photo, work along with about 150 of their fellows, all year long in collecting, repairing, repainting and refreshing toys donated by young and old of the area. Schools accept contributions; paint dealers and salesmen give samples; merchants contributed damaged merchandise. All of it is recreated, and turned over to the Community Council and the Red Feather agencies for distribution.

International's President a True Fire Fighter

Former Chief C. Gray Burnett, of Ottawa, Canada, president-elect of the International Association of Fire Chiefs, and the first Canadian to hold that office in over a quarter of a century, is a "fireman's fireman."

He came naturally by his love for the fire service from his father, the late Fire Chief Robert Burnett, who served with the Ottawa Fire Department for 43 years—nine of those years as chief. Gray Burnett who became Ottawa's youngest chief at 44 (in 1943), was the tenth in a family of thirteen, six boys and seven girls. But he was the only one to follow in his father's footsteps. Today at 56 he insists he has enjoyed every minute of his 32 years spent as a fire fighter.

Although retired from the post of Fire Chief of Ottawa, President Burnett is still following his first love. His present job is to investigate fires and their causes as chief fire officer of the Fire Research Section, National Research Council of Canada, a post which takes him throughout the Dominion.

Chief Burnett's enthusiasm and energy for his calling as head of Ottawa's fire force brought him wide attention and acclaim, and presidency of the then Dominion Association of Fire Chiefs (now Canadian Association of Fire Chiefs). This was in 1952. It also brought him the honor of becoming second vice-president of the I.A.F.C.

Aside from his family (he has three daughters and five grandchildren), and his work in the field of fire investigation, Chief Burnett likes sports and working with mechanical devices. He at one time played semi-pro hockey, but dropped this to enter the World War I with the First Canadian Division. For two years he served with the Canadian Motor Machine Gun Brigade.

After completing a course in mechanical engineering in England, following the war, he returned to Canada and entered the fire department. This was in 1922, just at the time the department was going through the throes of motorization.

Two years after the death of his father, in 1930, Gray was appointed district chief, and five years later he was advanced to deputy chief. He was made chief in 1943.

Burnett is past president of the Ottawa Branch of the Canadian Legion. He is a member of the Institute of Fire Engineers of Great Britain, and other local and Dominion organizations.

Canadian Fire Investigation School

The Canadian Fire Investigation School held its first course at the "N" Division Barracks of the Royal Canadian Mounted Police in Rockcliffe, Ontario, October 25-29. The School is conducted by the Association of Canadian Fire Marshals in cooperation with the R.C.M.P., under the sponsorship of the Canadian Association of Fire Chiefs.

The School fills a need long evident in the Dominion by those charged with the work of fire and arson investigation. In the past the only sources of such organized training have been in the United States and these naturally dealt with American law and court procedures. The new School undertakes to meet the needs of Canadians in all its many phases. It is expected that the enterprise will be an annual event, alternating between the R.C.M.P. Barracks at Rockcliffe, Ont., and Regina, Saskatchewan.

The five day sessions were crammed with speakers and topics covering almost the entire field of arson causes, detection, investigation and related factors.

Chief and Mrs. Gray Burnett, their three daughters, a son-in-law, and their five grandchildren.

Novel British "Fireboat"

Recently demonstrated on the River Mole, near Dorking, Surrey, England, was the novel inflated rubber raft, shown herewith, part of a fire fighting unit known as the "Bikini." The Bikini unit consists of three of the rafts, each equipped with three pumps.

Portable fireboat undergoing tests near Surrey, England

The rafts are carried by truck to the body of water nearest the fire and lowered by crane. Once afloat, they are propelled by a jet of water from one of their three pumps, which together can pump 1000 gpm at about 100 psi.

Alert Firemen's Association Holds First Regional School

The First Regional Volunteer Firemen's Training School, sponsored by the Alert Firemen's Association of Michigan, was held in Lansing, Michigan, on successive Saturdays, September 18th and 25th, 1954.

The school evolutions included (1) Hose and Nozzles; (2) First Aid and Rescue; (3) Use of small equipment and hand extinguishers, and (4) Ladder evolutions, handled by instructors (accredited by the University of Michigan); Chief Albert Lundwahl of Norton Township Fire Department; Lieut. Arthur Foster, Lansing Fire Department; Assistant Chief Pratt; Battalion Chief Morgan of the Flint Fire Department; Battalion Chief Don Burrows of Battle Creek Fire Department and Fire Inspector Ches. Miller of Mt. Clemons Fire Department, working under the tutorage of Malcolm Whale of the State Board of Vocational Training.

The first day of school had 220 enrollees from 52 Departments. Sessions were carried on despite almost constant heavy rain; but the second day saw sunny skies with 168 enrollees from the same number of Departments.

The school, which was deemed a complete success, won widespread acclaim. Officers of the Association headed by Chief Earl Miller of Lansing Twp. Fire Department and cooperating agencies including the Oldsmobile Forge Div.-G.M.C., through T. E. Darnton, Manufacturing Manager; W. H. Mahoney, Director of Personnel and Industrial Relations; Homer Purchis, Director of Plant Service, and "Duke" Schau, Lieut. of the Fire Department, won the appreciation of the enrollees for their generous assistance.—HAROLD E. MILLER

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1247 2½" 1,000 G.P.M.	100	1083 55 ft.	1069 75 ft.	957 150 ft.

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PERFORMANCE DATA							
		60° Fog		30° Fog		Straight Stream	
STYLE	P.S.I.	G.P.M.	Reach	G.P.M.	Reach	G.P.M.	Reach
1201 1"	125	32	13 ft.	28	23 ft.	24	75 ft.
1212 1½"	100	110	18 ft.	90	30 ft.	75	100 ft.
1221 2½"	90	175	28 ft.	170	40 ft.	143	130 ft.

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DOUBLE SHUT-OFF Opens from shut-off directly into fog or straight stream. Reduce water damage by opening nozzle directly to fog.

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SMALL STREAM For washdown.

3/4" — 1", 1-1/2" and 2-1/2" sizes

AKRON BRASS

FIRE FIGHTING EQUIPMENT

FOR FULL INFORMATION SEND COUPON ON PRECEDING PAGE.

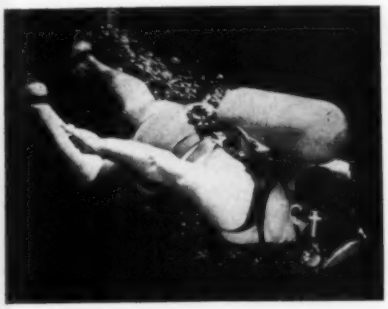
AKRON BRASS MFG. COMPANY, INC.

Wooster, Ohio

News of the Manufacturers

Scott Introduces "Hydro-Pak" for Underwater Operations

Scott Aviation Corporation, manufacturers of the Scott Air-Pak self-contained breathing equipment for industry and fire fighting, has introduced a new unit called the Scott Hydro-Pak. The device is a self-contained breathing unit for use in underwater recovery of bodies and equipment, underwater repair and inspection work.



New Scott "Hydro-Pak" for underwater operations.

The equipment greatly increases the scope of service of any fire or rescue group through saving time and money over indirect grappling or draining techniques now used for underwater operations. The device goes on like an Air-Pak, and is said to require minimum instruction and training for efficient use.

The new product has a full face mask for natural breathing through nose or mouth. A large, safety-glass "view plate" permits a wide, clear field of vision.

Automatic air regulators located at both sides of the mask permit breathing in any *position*. This regulator is basically similar to the Scott demand regulator extensively used on Scott breathing units for industry, aviation, and the fire service.

Other features include a device for conserving the compressed air supply while wearing the Hydro-Pack above water; a short breathing hose located out of the way where it can't snag or interfere with freedom of movement; the full back plate; air reserve mechanism, and water ejection button.

New Generator for Fire Cars

A new high-output generator, especially designed for fire, police and other vehicles using two-way radios, has just been announced by the Electric Auto-Lite Co. of Toledo, O.

Under normal operating temperatures, this generator has a maximum output of 50 amperes. In cold weather, a maximum output in excess of 60 amperes is automatically allowed by using the generator with a new Auto-Lite regulator.

The generators are available with two sizes of pulleys—one for city operation and one for highway operation. Using a "city" pulley, the generator will deliver approximately 7 to 10 amperes at idling speed and will reach full output at approximately 19 miles per hour. When so equipped, it is said to give satisfactory performance up to 80 mph.

R. J. Casey Heads Sprinkler Association

Announcement of the election of Raymond J. Casey as Executive Director of the National Automatic Sprinkler and Fire Control Association was made Nov. 11 by Arthur M. Lewis, Chairman of the Executive Committee. Casey was formerly Director of Labor Relations.

The Association also reported the election of Pickard E. Wagner as Director of Public Relations. He previously served as Public Relations Director of Magic Valley Electric, Mercedes, Texas.

Other personnel changes included the retirement of Anna D. Bosch (Mrs. Edwin Rieman) as Secretary-Treasurer after 40 years with the organization. She has served as Secretary-Treasurer since 1945. Elected to fill the vacancy was A. G. Woelfel.

President of the Association is John J. Power, Jr., of Youngstown, Ohio. Vice-Presidents are Frank J. Fee, Jr., of Mount Vernon, N. Y. and R. B. Heath of Worcester, Mass.

Mechanical "Giraffe" Aids Firemen

Several years ago a feature of the show at the New Haven Fire Department's Training Grounds was a mechanical hoist that did about everything but talk. Since that initial demonstration to fire fighters (actually the product had been in use by public utility companies for some time) it has found acceptance by at least one fire department.

The mechanical "giraffe" made the headlines recently when it was called on to deliver in a pinch, by firemen of New Westminster, B. C., at a $350,000 Army-Navy store fire.

The "Pitman Giraffe," to give it its full name, was put into service to aid in getting water into the upper part of the burning building after it was determined ladder streams were inadvisable because of "hot wires." The picture below tells much of the story.

This novel unit, although not built expressly for fire suppression, has an affinity for fire suppression. It provides a stable platform for fighting fire in upper stories up to 40 feet. The versatile boom will rotate, hydraulically, 360 degs.; the upper boom moves up and down in a 170-degree arc; while the lower boom moves in a 100-degree arc. The device is foot controlled by operators on the platform. The boom is insulated. The platform is kept level at all times. Its capacity is 1,500 lbs. with outrigger or 450 lbs. without outrigger. In the event of power failure, it can be lowered to the ground at will. Dual controls are provided at ground level.

A New "In-Plant" Fire Fighter

Seco Safety Products Company of Detroit, Mich., has developed a new fire fighting unit called "Seco In-Plant Fire Truck" which should have particular interest to industrial, large mercantile, institutional and other occupancies, where fire protection receives serious consideration.

Seco In-Plant Fire Truck

The truck is equipped with a 150-lb. dry chemical unit and 300-lb. carbon dioxide unit. It may be varied to suit requirements of the occupancy—a combination of water fog and carbon dioxide, or a combination of water fog and dry chemical is possible. In addition, optional equipment includes axes, crow-

"Pitman Giraffe" in operation at Westminster, B. C., fire.

bars, shovels, hand-lights, gas masks, raincoats, hats, boots and other acccessories.

The company has numbers of these units in plants and reports of their successful operation are being received.

Richland Twp. VFD Gets 1500-Gallon Pumper-Tanker

Richland Township Volunteers of Allegheny County, Pa., are the proud possessors of a new pumper-tanker built by Sharpsville Steel Fabricators, which features a 1500-gallon tank, three-stage Champion pump to provide a complete range of volume delivery, plus high pressure fog as desired.

Richland Township's new pumper.

The tank is baffled, and mounted to provide proper load distribution. Tank, hose bed, fenders and body panels are welded into one integral unit.

Chassis, fire pump and certain other details were furnished by the Fire Company, Sharpsville, doing the fabricating and assembly.

The steel body is compartmentized for stowage of gear and equipment with cabinet lights controlled from cab. Tank is coated inside with a synthetic rubber compound to deter corrosion.

Further Unification at Pyrene and C-O-Two

Pyrene Manufacturing Company and its wholly owned affiliate, C-O-Two Fire Equipment Company, two leading manufacturers of fire protection equipment, are furthering their unification program in the east, midwest and far west and will continue with their main operations in Newark, New Jersey, according to an announcement by S. R. Baker, Chairman of the Board.

Eastern manufacturing operations at the Belmont Avenue plant, Newark, N. J., will be discontinued; however, full manufacturing operations will continue at the U. S. Highway 1 plant in Newark, as well as at newly enlarged midwest and far west Pyrene plants in Chicago, Ill., and Los Angeles, Calif. There is no change with other subsidiaries in the east and Canada, namely Pyrene Metal Finishers, Inc., whose plant is located at Empire Street in Newark, N. J.; Chemical Concentrates Corporation plant in Fort Washington, Pa., and C-O-Two Fire Equipment of Canada, Ltd., in Toronto, Ontario, Canada.

The newly enlarged midwest division facilities at Blue Island, Chicago, Ill., now include sales and engineering divisions, as well as a large demonstration field with increased warehousing space.

The former branch office and warehouse facilities in San Francisco, Calif., have been moved to the newly expanded sales, engineering and production facilities in Los Angeles to provide better facilities and service for the Pacific coast area.

S. R. Baker announces that all Pyrene and C-O-Two sales and engineering services are now combined at direct factory branch offices in Newark, Atlanta, Chicago, Dallas and Los Angeles.

E. C. Anderson to Represent Marine Products Co.

Marine Products Company of Detroit, Michigan, announce the appointment of Edwin C. Anderson Co., Denver, Colorado, as factory representative for Colorado and adjoining states.

Edwin C. Anderson

Edwin C. Anderson has been assocated with the pump business for over eighteen years and is a graduate mechanical engineer. With his son, Bruce, who is soon to return from serving in the Armed Forces, they will offer sales and engineering service for Marine Products line of MP straight centrifugal, Duraflex rotary, and Flomax self-priming centrifugal pumps.

Acme Moves to New Plant

Acme Protection Equipment Company has just moved its general offices and factory from Chicago to new headquarters in South Haven, Michigan, according to G. M. Glidden, president.

This move is in line with the company's current expansion program to step up gas mask and canister production and service to Acme distributors and users, it is stated.

The new plant, illustrated, provides 10,300 square feet, more than triple the space formerly available for production.

Mr. Glidden stated that the company's new home includes a complete laboratory, dehumidified areas for storage purposes, and canister filling; production lines on several assembly operations; gravity methods for handling liquid chemicals, and other modern facilities.

M.S.A. Issues New Literature on Gas Analyzers

Mine Safety Appliances Company's complete line of Combustible Gas Analyzers and Alarms are described in a 20-page brochure recently published by the Pittsburgh, Pa., safety equipment manufacturer.

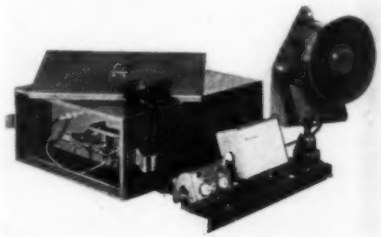
Prepared to give details of how these instruments work, the brochure contains part-by-part descriptions of the components of M.S.A.'s analyzers. Actual installations in varied industries are fully covered, and a method of designing a combustible gas alarm system is shown schematically. Instruments to protect against most of the known combustible gases and vapors are described.

Copies of the brochure, Number 0703-3, can be obtained from Mine Safety Appliances Company, 201 North Braddock Avenue, Pittsburgh 8, Pa.

New, Low-Cost Motorola System

Operating flexibility and extra power to overcome high noise levels at the scene of fires are two characteristics of a new, low cost, "packaged" two-way radio system recently placed in production by Motorola for use on fire apparatus. The equipment provides a means of directing firemen's activities at the fire, as well as communicating with headquarters and other vehicles.

The system, consisting of receiver, transmitter, and power supply with an audio booster amplifier, fits into a standard 15" housing, and is easily installed. It operates interchangeably with either a 6- or 12-volt battery installation. Audio output in 10 watts; R. F. output is 25 watts. Waterproof marine speaker is provided.



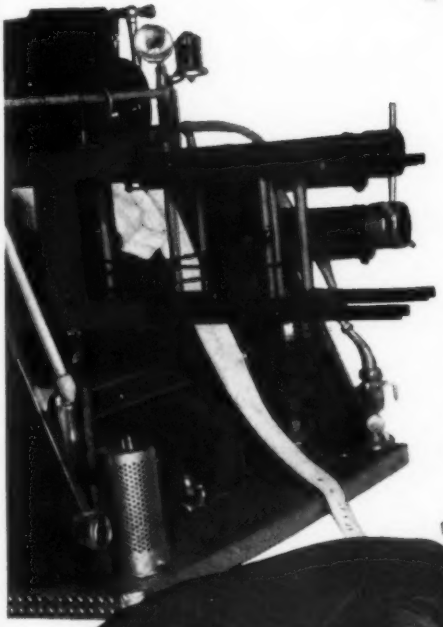
New two-way radio for use in fire trucks and other equipment operating in areas of high, audible noise levels is shown here with a weatherproof housing, a swivel-mounted marine-type speaker, and the optional inverted cone cab speaker.

The basic radio may be easily modified or added to. For example, it can be equipped with a weatherproof housing and shock mountings. A swivel-mounted marine-type speaker can be substituted for the fixed-position one. A cab speaker can be added to enable the user to con-

(*Continued on page* 1181)

Acme Protection Equipment Company's new plant.

Up to 10 lbs. lighter per 50-ft. length ...with DACRON filler cords.



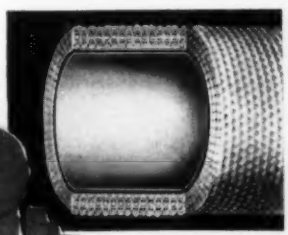
--EUREKA Multiple-Woven

Hosemen appreciate the *lighter weight, greater strength* and *safety* of Eureka Multiple-Woven Hose when made with circular (filler) cords of Dacron*. They like, too, the ease with which it rolls into coils or bends back on itself . . . the speed with which it dries.

Those entrusted with the buying of fire equipment also favor Eureka Multiple-Woven. Experience has proved it least expensive in the long run, despite its premium quality and initial cost. Users report up to 25 years' useful service life from this unique hose that is woven on special, never-duplicated Eureka looms.

On every count—quality, economy, safety and performance—*your* choice of hose is beyond criticism when you make it Eureka Multiple-Woven! You'll also have the added satisfaction of buying your hose from a fire hose specialist.

*Du Pont's trade-mark for its polyester fiber.



All plies are woven *and interwoven* simultaneously. There's no space between plies for water and dirt.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

195 Hudson Street • New York 13, New York

Division of United States Rubber Company

FALSE ALARMS

"You have been charged with fighting," said the judge. "Have you any explanation?"

"Well, Your Honor," said the defendant, "it was like this. I was in a phone booth talking to my girl when this guy comes up and wants to use the phone. He opens the door, grabs me by the neck and tosses me out on my ear."

"Then you got angry?" asked the judge.

"Yes, a little," answered the man. "But I didn't get real mad until he grabbed my girl and threw her out, too."

There's nothing so gratifying,
When a cop's siren stops you dead,
As to have him go by you eyeing
Some car that's up ahead.

Hostess (to little boy at party): "Why don't you eat your jello?"

Little boy: "I'm afraid, ma'am, it ain't dead yet."

Once during a severe rain storm three roosters found themselves caught in the downpour. Two of them ran for the barn. The third and smartest one made a duck under the porch.

A New Twist to an Old Saw

Once upon a time an African native king learned that anthropologists were heading his way, bent upon carrying off his cherished golden throne.

The wise king elected to hide the throne in the rafters of his grass-thatched hut, and retired, smugly content that his treasure would not be discovered. Unfortunately the throne crashed from its moorings and killed the ruler in his bed below.

Moral: People who live in grass houses shouldn't stow thrones.

Sign on a menu: "The silver is not medicine; please do not take it after meals."

She was "Honey Chile" in New Orleans,
The hot spot of the bunch;
But on the old expense account,
She was gas, cigars, and lunch.

The new bride received a nicely wrapped box with a note which read:

"My dear, wear this on your wedding night and you will be sure to wow him."

The box was empty.

The Good Old Days

One thing you've got to admit about the little red schoolhouse—it had something in back of it.

Gently he pushed her quivering shoulders back against the chair. She raised her beseeching eyes in which faint hope and fear were struggling. From her parted lips, her breath came in short, wrenching gasps. Reassuringly, he smiled at her.

Buzz, went the dentist's drill.

"First, let's turn off these fans. They don't make the job any easier!"

"In this case, son, you're better off if the charges held against you aren't dropped!"

It has finally been determined what is meant by the hammer and sickle on the Russian flag. The sickle is to mow 'em down, and the hammer is to keep 'em that way.

95% of the women I come in contact with fall in love with me. The other 5% I meet when I'm awake.

He's a lucky man—has a wife and a cigarette lighter and both of them work.

The Reason

I never kiss
I never neck
I don't say hell
I don't say heck
I'm always good
I'm always nice
I play no poker
I shake no dice
I never drink
I never flirt
I never gossip
Or spread the dirt
I have no line
Of funny tricks
But what the hell
I'm only six!

Nothing's Changed

There was a knock on the door of the dormitory room. "May I come in?" said a male voice. "It's the room I had when I went to college here."

"Yes, sir," he continued. "Same old room, same old furniture, same old view of the campus, same old closet." He opened the closet door. There stood a girl, terrified.

"That's my sister," said the occupant of the room.

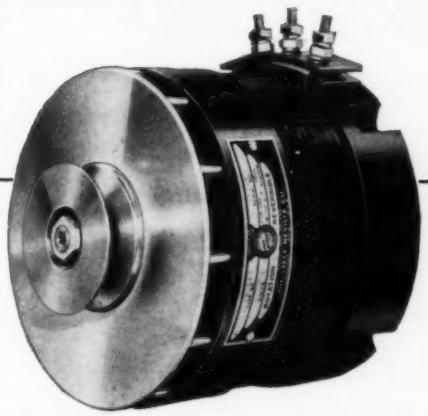
"Yes, sir," he replied, "same old story."

WHEN *Seconds Count..*

Leece-Neville

High-output ALTERNATORS

Guarantee—



1—AMPLE POWER for RADIO, SIREN, LIGHTS *SAVE THE BATTERY!*

L-N Alternators carry the load: up to 95 amps for 6-volt systems; to 180 amps for 12-volt systems; to 100 amps for 24-volt systems. No danger of draining battery.

2—CHARGING CURRENT WITH ENGINE IDLING

At the fire you can have unlimited use of 2-way radio because the L-N Alternator produces 25 to 40 amps charging current **with engine idling**. Keeps battery "up".

3—110 VOLTS FOR FLOOD LIGHTS, POWER TOOLS

Leece-Neville Transformer gives you up to 1200 watts at 110 volts . . . current for spot or flood lights, half-inch drill, power saw, etc.

THE ORIGINAL AC-DC GENERATING SYSTEM RECOGNIZED EVERYWHERE!

Since 1946, more and more Fire Depts. have made L-N Alternators standard. Some of these are:

Atlanta, Boston, Buffalo, Chicago, Cleveland, Dallas, Denver, Detroit, Los Angeles, Miami, Montreal, New York, Pittsburgh, Toronto.

• There are many more advantages to Leece-Neville Alternators. For all the facts, and name of your nearby, friendly L-N Distributor, write today to The Leece-Neville Company, Cleveland 14, Ohio. *Distributors in principal cities . . . Service Stations everywhere.*

BE SURE TO SPECIFY LEECE-NEVILLE

you can rely on **Leece-Neville** Alternators

proved by performance for over 8 years

SECONDS COUNT

when your life is at stake

Pocketaire

on the man and in action in only 7 seconds

Compact, light, completely self-contained, Pocketaire breathing apparatus provides a modern approach to Fire Attack. Its use of oxygen, the only element in air essential to sustain life, involves a minimum of weight and bulk. A rebreather bag provides the needed "fill air".

"First-in" men, wearing a featherweight 4½ pound Pocketaire, are protected against every breathing hazard by a 5 minute work cylinder and an escape cylinder which assures an additional 5 minute safety margin.

"Follow-up" men, using a 15 minute work cylinder, are also safeguarded by the 5 minute escape cylinder. Even this larger 6½ pound unit is sufficiently compact to permit free entry through small openings.

Recharged for just a few pennies from any standard oxygen cylinder, Pocketaire is an inexpensive, lifesaving, breathing apparatus.

Pocketaire . . . longer life for fire fighters

model #1500 $98.50 goggles and carrying case additional

THE CYCLE-FLO COMPANY

986 Bridgeport Ave., Milford, Conn.

Please send me your booklet on Pocketaire Breathing Equipment.

Name .....

Address .....

.....

A few distributorships are still available. Write for details.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Vamps' Race With Death Succeeds—Then Fails

Three volunteer firemen and West Virginia State Police took up a challenge with death for the life of a diminutive infant whose only hope for survival lay in reaching a hospital 50 miles away.

The challenge was made in the maternity ward of Orthopedic Hospital in Follansbee, W. Va., where 2½ pound Paul Speer was born. Doctors told the parents, Mr. and Mrs. William Speer of Weirton Heights, W. Va., that the premature baby "might" survive, but his best chance would be at Children's Hospital, Pittsburgh.

Follansbee Fire Chief Dave Reese and one of his volunteers, Roy Bennet, and Wellsburg volunteer Gale Ralston, said they would get the infant to Pittsburgh.

The distance was 50 miles, through traffic, around many torturous curves in the road. With State Police from Imperial, Pa., leading the way, the impromptu caravan dashed over the highways.

Fireman Ralston was at the wheel of the ambulance, and Chief Reese and Fireman Bennet crouched over the baby feeding him oxygen. With them was the infant's father.

Upon arrival at Children's Hospital the little tot was immediately placed in an oxygen tent and the race appeared won. But some hours later baby Paul died.

Oh yes—the time from start to finish in the 50-mile dash was: 45 minutes.

* * *

Vamp Spots, Grabs False Alarmer

Shortly before 11 A.M., of an October morning, a 49-year-old seaman, Eugene Talantoff, was seen attempting to turn in a false alarm from a fire alarm box across the street from Manhattan Police Headquarters.

Driving by the scene, as the seaman was about to snap the box, was a volunteer fireman, Joseph Farrel of East Meadow, Long Island.

Part-time fireman Farrel halted his bread-delivery truck, hopped out, grabbed Talantoff, and held him for police, who booked the seaman on a charge of malicious mischief.

* * *

Strictly for the Birds!

Out Wells Beach-way, in Maine, they're still talking about the "battle" the local vamps had with a chimney fire that caused over 200 casualties.

To the volunteers it was a fire "strictly for the birds," who were the sufferers. But they'd just as soon not go through the experience again.

The vamps were called to Russell Guest's house to combat what was reported as, and looked like, a chimney fire. Following their prescribed practice, they dropped a chemical bomb down the chimney. And then the excitement began.

Out popped a couple hundred chimney swifts or swallows. Smoke continued to billow into the five-room house. The air became filled with smoke and swallows.

Puzzled volunteers disconnected the pipe connecting the stove and flue. It was choked with dead swallows. The pipe finally was cleared. Then, from the roof a firemen, armed with a long pike pole, dislodged more birds, still alive, from the chimney, forcing their evacuation through the flue hole.

Other firemen, waving brooms, clothing and whathaveyou, routed birds through the house to entrances—and out. The house became a mess. The soot-covered swallows smeared ceilings, walls and furnishings in their frenzied flight.

Many of the birds, according to the fire chief, tried to return to their chimney haunts, adding to the chore of the fireman on the roof. Finally peace descended on the bird battleground. Before the volunteers left, 200 dead birds had been gathered up.

What's that saying "One swallow doesn't make a summer." To which we might add, nor do 200 bird casualties, a fire.

* * *

Who's Zoo! Write It Off as "Extra-Curricular"

A hysterical woman of Bellmawr Park, N. J., informed Police Sergeant Roxie Romano by telephone at 1:00 A.M., that a zebra was peering in her window. The Sergeant advised her to switch her drinks and go back to bed.

A moment later another woman reported, via phone, a reindeer in her backyard. Within half an hour, Romano had received 50 similar calls, so he dispatched a radio car and sounded the town fire siren to bring out the volunteer firemen and policemen.

The siren wasn't necessary to awaken anybody. The town had already been thoroughly aroused. All of the animals reported turned out to be fifteen donkeys that had broken out of a ball park back of the Bellmawr Park Fire Hall.

Finally all the jackasses were rounded up by the vamps and cops to take their part in a donkey soft ball game the following Saturday night.

* * *

Hot Off the Tape

A fire in a tavern in Minneapolis, Minn., on Nov. 8, poured out such heavy smoke that fire fighters couldn't see the fire hydrant on the corner. It was finally located by probing through the smoke blanket by hand. . . . This'un from Waynesboro, Va., tells about one Raymond T. Hunter, who was serving as a juror at a trial, when the proceedings were interrupted by the screech of sirens and clanging of fire bells. A police sergeant was called out of the courtroom but returned shortly to inform the court of the location of the blaze. Judge C. G. Quesenbery recessed court—it was juror Hunter's own home burning. . . . Shortly after a fire prevention film ended at a New Britain, Ct., theatre, an awning on a near-by store burst into flames. The theatre's maintenance man and a policeman who had seen the film doused the flames before firemen arrived. . . . Teachers and pupils of the Chase School in Waterbury, Conn., got a surprise when they staged what was to be a routine fire drill. Several companies of

DO YOU GET THIS KIND OF FOAM

from your AIR FOAM System?

This photomicrograph is the revealing secret of **NICEROL** *AIR FOAM'S TRULY AMAZING heat stability*

THIS IS WHY **NICEROL**

GIVES GREATER HEAT RESISTANCE

The minute, closely-knit bubbles retain the maximum water content in a foam that is both adhesive and cohesive. This is the reason that Air Foam, made from Nicerol, defies fire breakdown, puts out more fire faster, and definitely outlasts the fire to prevent flashbacks.

NICEROL Air Foam Liquid lasts longer in the can, too, because it is specially processed to prevent corrosion of cans and containers—nor does it form sludge.

NICEROL Air Foam Liquid can be used with all approved types of air foam systems and nozzles.

NICEROL is more widely used throughout the world than any other air foam liquid.

SPECIAL TESTING OFFER

Simply write the one word "SAMPLE" on your official stationery and we will send to you: Freight pre-paid, anywhere in the U.S.A. or Canada, one 5-gallon can of NICEROL Double strength Air Foam Liquid, for $20 C.O.D. (or please enclose check). Test this sample can through your existing foam system—to produce 1,650 gallons of tough foam from only 165 gallons of water, fresh or salt.

The $20 cost of this sample will be deducted from your first order for NICEROL of 100 gallons and over.

Nicerol

THE LONGER LASTING AIR FOAM

Keeps longer in storage—Puts out more Fire Faster Outlasts the Fire

INQUIRIES INVITED FROM DISTRIBUTORS AS WELL AS USERS. FULL TECHNICAL AND COMMERCIAL DETAILS AVAILABLE FROM

GEORGE T. REYNOLDS & ASSOCIATES, P.O. BOX 395, THORNWOOD, N.Y., U.S.A.

BRITISH FIRE EXTINGUISHERS LTD., 222 SIMCOE ST., TORONTO 2B, ONT., CANADA

fire fighters arrived in the midst of the drill. Seems someone neglected to disconnect the automatic alarm box, when the switch was pulled. . . . When fire swept through a warehouse in Grant, Newaygo County, Mich.,—the "onion capital" of that state, 13,000 cases of the odoriferous vegetable were destroyed. Loss was reported at $50,000. 'Tis said there wasn't a dry eye in the entire attacking force of fire fighters. . . . While we're speaking about foodstuffs being consumed by fire, take the plight of fire fighters of Westmoreland, Calif., who reported to a fire in a truck and trailer, on November 10 last, which roasted 28,000 lbs. of nice turkey. The Brothers reportedly didn't get a turkey dinner out of it, but several motorists stopped and grabbed the cooked birds to the annoyance of firemen. . . . Former film star Mary Pickford received emergency treatment from a fire department resuscitator squad in Beverly Hills, Calif., because she suffered an attack of indigestion "brought on by a state of nerves." Fire Department Captain Fred May disclosed that Miss Pickford was given oxygen for 22 minutes. . . . Patricia James, 21, was trapped in her third floor apartment in San Francisco on Nov. 11th as fire fighters raced up to battle a two-alarmer in the building. But fireman Leo Sutton, who appeared at her smoke-filled window on an extension ladder, found out how desperate her situation was when the pretty model suddenly dashed back into the smoky room. She reappeared a few minutes later, tumbling into his rescuing arms, and explained *"I nearly forgot my lipstick."* . . . When fire destroyed the 22-room house of the late George L. Berry, head of the Pressmen's Union for more than 40 years, although damage to the four-story landmark in Pressmen's Home, Tenn., amounted to $100,000, no fire department was called; according the reason given Pressmen's Home public relations director was that there was no water supply at the site sufficient for fighting such a fire."

* * *

Yarn With Kick Nearly Ends With a Bang!

This isn't a gridiron story, but it has a kick in it. It is about one Fred Indiviglio of the Bronx, N. Y. C., who doesn't play football, incidentally.

Mr. Indiviglio, who lives at 1137 East 214 Street, went down the street to Laconia ave., to inspect a building site, where he is constructing homes in the area.

On the site he saw a battered black plastic case and an old wooden box. Thinking the containers were filled with garbage, he kicked them disgustedly but most strenuously.

He was about to set fire to the boxes when he decided to see what was inside'em. He peeked—and found 145 sticks of dynamite and 334 detonator caps.

Mr. Indiviglio had a chill, the police were baffled, and started an investigation.

* * *

Buffs Get Rebuff

Chief of Police Tom Gault of Eloy, Ariz., got pretty miffed—along with members of the local fire force—at certain citizens who followed the fire trucks at every alarm. He inserted a notice in the local newspaper asking them to cease and desist. But they still got in the way.

The other night the apparatus was called to a brush fire. It responded, trailed by the usual parade of sightseers.

Chief Gault threw up road blocks at each end of the street. He wrote out 31 tickets for you-know-what. "I would have got more," he said, "but it was a short block."

Time will tell just how effective his "short blocking" of the rubberneckers worked out.

* * *

Do Three Singles Make a Third?

If three one-alarm fires make a three-alarm fire, Yakima, Wash., firemen had one Oct. 27th, last. At 9:47 a.m. they were called to a duplex house at 509 North Sixth Street and found that the stoker had emptied and filled the house with smoke.

This wasn't so bad, but at 12:01 p.m. they went back and found that newspapers used to relight the fire had started the wood shingles afire. With the heat off on a cold day, the furnace worked itself into quite a frenzy and, at 4:09 in the afternoon, fire fighters rolled up a third time, when the flue burned out.

After this, firemen then stood by until the chinmey, and the lady of the house, cooled off.

P. S. Twenty-eight days before this episode, firemen spent a morning at the same house fighting a fire that started in the basement and went to the second floor. (Thanks, DICK LANDIS, Inspector, Bureau of Fire Prevention, Yakima, Wash.)

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Among the Buffs

By Paul C. Ditzel

FIRE records are packed with stories of delayed alarms, but few of them come close to matching the one described in Editor Geoffrey F. D. Pratt's excellent journal of the British fire service, "Fire Protection Review."

This blaze, described in Editor Pratt's November issue, occurred at Goldalming, Surrey, early last August 17, involving a factory where air-sea rescue equipment was made. At least four persons saw the fire during the hours of 1:30 to 4:10 A.M., and all of them thought the blaze was a bonfire. Moreover, the plant's night watchman actually walked over the fire without knowing it!

The fire was first sighted by an ambulance driver as he backed his rig into the garage after a late-night run. He saw a reddish glow at the rear of the works and noticed it again after reaching his home, about 600 to 700 yards from the back of the plant. The ambulance driver, recalling that the firm made it a regular practice to have bonfires for waste destruction, took no action.

There was no bonfire that night, however, and the driver went to bed.

A few minutes later, a woman in the Railway Hotel, about 500 to 600 yards from the rear of the factory, sat in her room and looked out the window at the plant as she smoked a cigaret. She did not see anything out of the ordinary!

Similarly, a young woman at a cottage a little to the west of the front of the works was roused by something at 3:15 A.M. On going to her bedroom window overlooking the factory she saw smoke and later sparks rising from the back of a shed. After watching what seemed to her to be an unusually large bonfire, she awakened her parents.

They decided something was wrong and her father dressed. By now the situation was critical and 15 minutes later a man living 600 to 700 yards to the east and rear of the factory was awakened by his barking dog. The man could see flames and rockets shooting into the sky and heard noises he described as of "rifle fire on corrugated iron."

"Still no call had reached the fire brigade," the "Review" interjects.

Half an hour later a worker in the nearby gas works noticed a red glow in the sky. He cycled over to investigate and arriving at the factory he saw the serious fire. Knowing that the watchman usually sat in a small front office, he threw stones at the door to attract his attention.

The watchman came out and seeing the fire ran into the plant "to open the medical room," according to his testimony. Although he was unable to say whether he did unlock the medical room, he did come back into the office and called the Fire Brigade.

The Goldalming station of the Surrey Fire Brigade received the call at 4:10 A.M. The first attendance reached the fire eight minutes later and found a severe fire involving the rear center of the western half of the works. The call for a "Make Pumps Four" was sent in and when the assistant divisional chief

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arrived he upped this to a "Make Pumps 10."

Despite the handicap of a delayed notification, the Surrey Brigade restricted loss to less than 50 per cent of the entire four acre premises, thanks to their pre-knowledge of the plant's layout and water supplies.

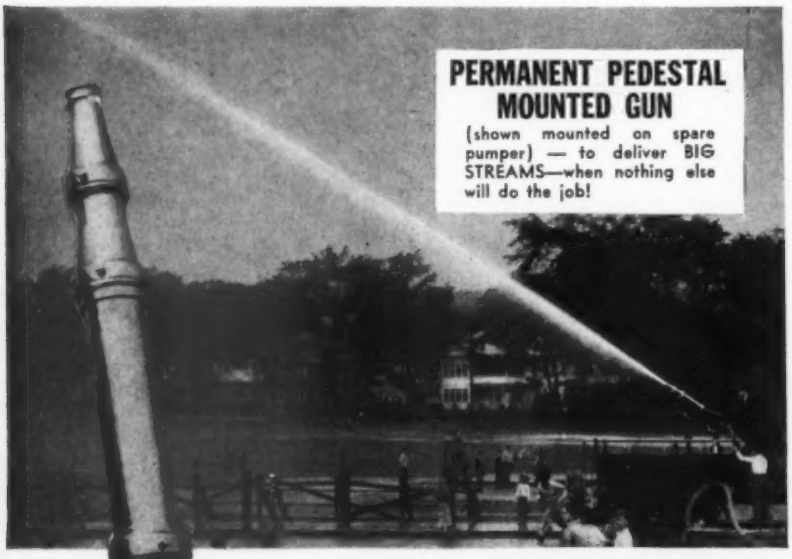
Chief Fire Officer A. H. Johnstone, who was in charge of the fire, later reported that the fire started in the plant between 6 P.M. and 1 A.M. and continued to burn quietly in the confined space of the closed store, gaining an intermittent air supply down the elevator shaft. There were times during the fire, before the alarm was turned in, when the burning material nearly went out. One of these times probably occurred while the woman in the Railway Hotel was sitting at the window in her room.

"The watchman did not observe the fire," said Chief Johnstone, "because he did not travel around the outside of the buildings (during his tours) and when passing over the fire area was prevented from seeing or feeling the fire because of the linoleum covering on the wooden floor."

Another part of Editor Pratt's magazine reports the same firm that suffered fire damage is making a collapsible fireboat. This latest addition to the British Fire Service apparatus is basically an inflatable raft of the type developed for air-sea rescue operations. It carries three featherweight pumps. The unit is transported to fires aboard general purpose rigs. Within minutes the raft can be unrolled, inflated by CO_2 and floated, complete with the three pumps.

Extensive tests carried out in cooperation with the Kent Fire Brigade have proved that the new unit can be taken across mud and operated in shallow water. The raft is propelled and controlled by jets from the pumps. Output is understood to be about 1050 gallons per minute.

That's about it for this month. Until the bells go down again, keep the fire service and buffs anecdotes rolling to me at 419 Napoleon St., Playa del Rey, Calif. P.S.: Have you heard about the Warwickshire, England, fire chief who runs a saloon? He keeps the Fenny Compton township engine in a garage attached to the pub. There's even an air raid siren on the roof of the tavern. Wait 'til Chicago hears this!



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World Wide Fire News

By Rei B. Woolley

Air Defense Related to U.S. Endurance

An air defense system 90 per cent effective in blunting an enemy thermonuclear attack on the United States might not be good enough to guarantee national survival, is the concept of Gen. Benjamin Wiley Chidlaw's Continental Air Defense Command.

The ADC was set up in the Rocky Mountain town of Colorado Springs last September, bringing Army, Navy and Air Force under one roof for joint defense of North America against jet bombers and guided missiles.

Taking into account the "awful arithmetic" of atomic destruction, the ADC staff makes the point that a 90 per cent effective defense would be adequate if the hypothetical enemy sent ten or twenty bombers over the U.S. Only one or two might get through. But if the enemy was willing to risk 500 planes, 50 might get through to their targets, and 50 well-placed hydrogen bombs could be enough to paralyze the country, its industrial machine and its will to continue fighting.

How much destruction can the country stand, not how high a percentage of enemy planes can be shot down, is what worries the ADC.

* * *

Seal Blazing Mine, End Hope for 15

A multi-million dollar mine, considered one of the safest and most modern in West Virginia, became a flaming tomb on Nov. 14, 1954, for fifteen miners trapped far below the surface, when officials made the fateful decision to abandon rescue and seal the mine off.

An outside worker also was killed in the initial explosion on the 13th, making the death toll sixteen in the state's worst mine disaster in a decade.

Fire raging a day after the first blast, in the big Jamison Coal & Coke Co. operation, touched off two more explosions within 45 minutes early on the 14th. Top Federal and State officials and the United Mine Workers union and the company then decided after a three-hour conference that rescue efforts were hopeless and would only endanger lives of rescue crews.

Officials said it would take up to two days to seal off each of the five openings leading into the mine. No forecast could be made of the time it might take before the fire was choked off and

recovery operations can begin.

The explosion was caused by ignition of methane gas, it is reported, but where or how it was liberated in such great quantities won't be known until the sealing chokes off the fire. An air sample taken thirty minutes before the blast showed the mine to be free of gas, it was said.

* * *

Luck—Large Economy Size

Two and one-half tons of dynamite is a lot of explosives. It oughta make a big boom. But in this case it didn't. Which made Earl F. Hart very happy.

Mr. Hart was driving a 5,000-lb load of dynamite on a 5-ton "box type" truck on Nov. 15th, last, near Ringtown, Pa., when his vehical upset and landed upside down, strewing dynamite over the highway and adjacent grounds.

The truck, owned by the Austin Powder Company, was almost demolished. The windshield was shattered. Hart, however, crawled out of the cab with nothing more than a few scratches. One would have thought Hart's nerve would be likewise. But it wasn't.

Rather calm after the mishap, Hart said he knew the dynamite wouldn't explode. He said the law does not permit the carrying of dynamite and exploders on the one trip. Nevertheless, many of the "40 per cent boxes" were smashed and sticks of dynamite were twisted and broken along the highway and grounds. State troopers shooed all onlookers to a safe distance until the truck was towed off to a garage on Ringtown Road.

Hart said his brakes locked and the truck went out of control. Chalk up one bundle of luck, large economy size!

* * *

From the World Fire News Ticker

Fireworks stored in a house in Sarno, Italy, in preparation for Christmas, blew up Nov. 16, wrecking three houses and killing at least nine persons. . . . In Tokyo Japan, police arrested a 15-year-old boy who confessed he set fire to 17 schools and homes since Oct. 9 because he was "shunned by his playmates and distrusted by his mother." All 17 fires were put out before much damage was done. Police picked up the boy in an alley where, they said, he was getting ready to start another fire. . . . Almost simultaneous fires in two rooms of the Chicago Historical Society Museum Nov. 14 destroyed historic objects estimatedly worth $100,000. The fires, in two main floor exhibition rooms, were listed as of "suspicious origin" and apparently were set by holding matches to window drapes. . . . Johann Lind, 27, of Vienna, Austria, who confessed setting fire to farm buildings every time he was spurned by a girl, was sentenced to 15 years at hard labor. . . . The Baltimore, Md., zoo, lost $5,000 worth of rare birds —40 small ones, three pheasants and a hornbill—in a 2-alarm fire which broke out Nov. 11 on the ground floor of the old home housing the bird exhibit. Birds, kept on second floor, were suffocated. . . . Ten carriage horses were burned to death Nov. 15 in a fire that destroyed the old Henry Ford barn in Greenfield Village, near Detroit. Barn, built in 1863, formerly stood at corner of Ford and Greenfield roads until the late Henry Ford transplanted it to Greenfield Village in 1943. Horses were used to draw sightseers on a carriage tour of the Ford Museum.

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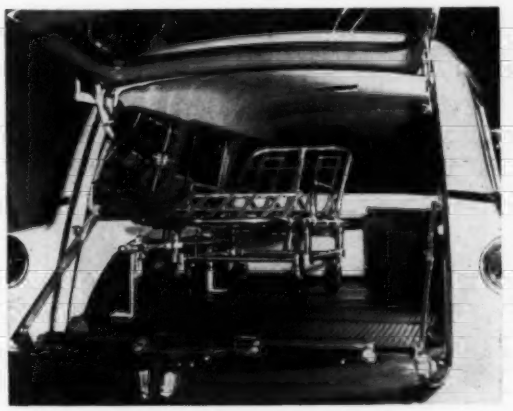

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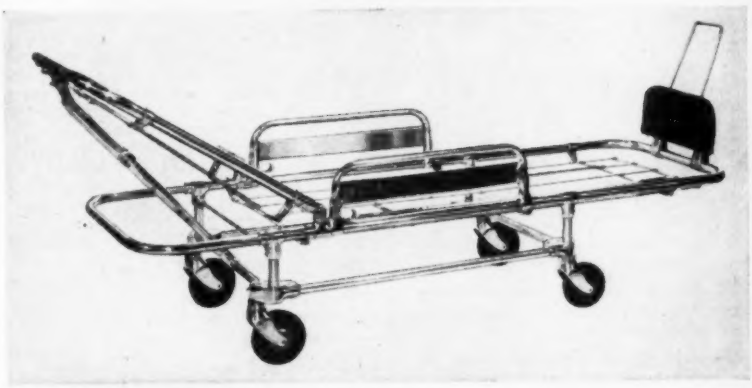

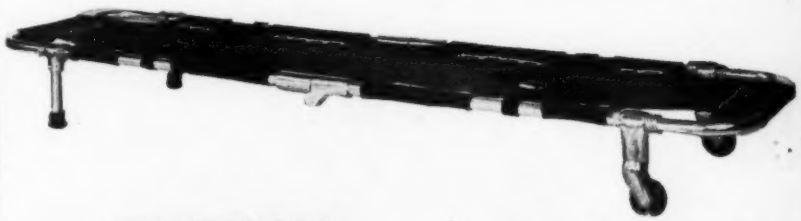

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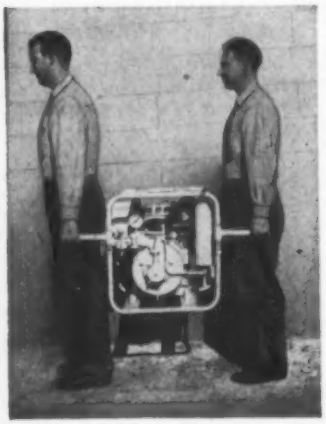

Above—Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
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- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
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The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 100 GPM at 70 lbs. Can supply two capable streams through 1½" lines, using nozzle tips up to ½".

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Short Cuts and Gadgets

NEW IDEA FOR LADDER-MAN HOIST

From Chief J. V. Redmond, Lakewood, Ohio, Fire Department, comes an interesting "short cut" to facilitate ladder climbing. Here's the way the chief puts it, in his own language:

"For some time I have given a great deal of thought to the feasibility of using the power of an aerial ladder to ride a man two-thirds of the length, and climbing one-third, thereby having a good fresh man in position with whatever tool is needed to rescue or perform any other duty necessary when an aerial ladder is required.

"I contacted the builder of the apparatus and was assured the ladder was capable of withstanding the strain (of the man)—but whether it would be practicable or not was a question.

"We proceeded to mount two small steps at the foot of the top fly-ladder, as you observed in the protographs herewith and showing the procedure followed in getting a man in the desired position. We tested the operation in every way possible.

"The test proved successful and failed to develop any 'bugs' in the operation."

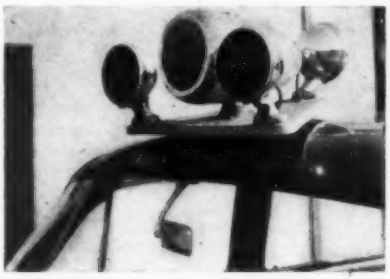
Chief Redmond invited the Editor's opinion of this operation. To the Editor it appears to have merit, but we hesitate to say it would prove practicable on all types and makes of aerial ladders produced in this country. But it is worth the good old college try. German ladder builders have gone this country one better, in that they provide, on the very long ladders, a hoist which will carry a man the entire length of the ladder to the top. This hoist, which consists of a small car, is drawn up by cable.

As the Editor sees it, as long as the ladder is of sufficient strength to permit elevating and extending the fly-ladders with a man at the foot of the top fly section, no argument should be raised against the addition of this innovation.

STANDARDIZING SIGNAL MOUNTINGS

Here's a "short cut" contributed by Captain T. J. Showers of Engine 31, Los Angeles County Fire Department, to simplify and improve warning light and siren mountings, but let Captain Showers tell it: Here's his letter:

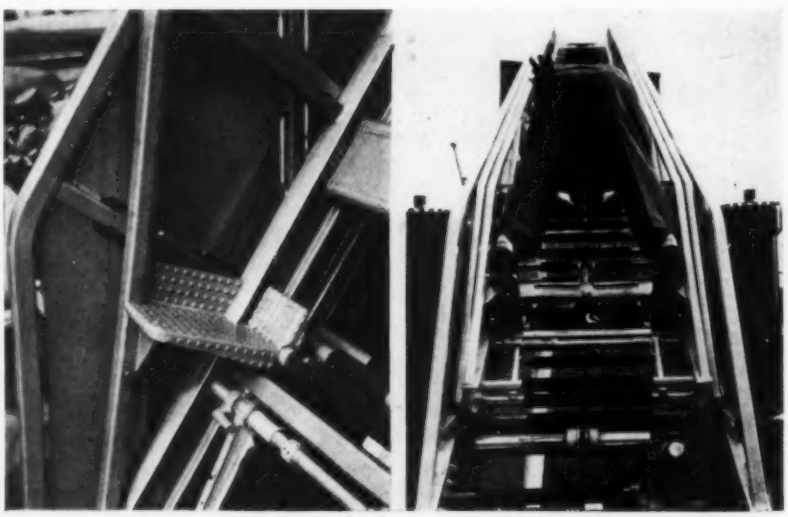
"In these days, when everyone is stressing economy, especially in the Fire Service, I thought some of the readers might be interested in this novel light and siren mounting. It was first used



on L. A. County fire and sheriffs' cars and is now being copied by many others.

"Designed for use on cars or cab type trucks, it has four small sized bolt holes close together with one larger hole for the electric cable in the center. It is wired so that the two front lights are on a separate switch from the rear.

"All lights flash. The siren has a two-position switch on the dash so that the horn button can be used for either siren or horn. The entire unit makes a neat appearance and allows much easier installation and removal with less holes to be filled when trading in the vehicle. Also, in the line of economy, the L. A. Co. Fire Department has found that by mounting the HF antennae on the trunk compartment door, that hole is also



Left: Side view of constructed step attached to ladder rung. Right: Man assuming position on ladder steps prior to raising of ladder.

easier to fill annd uses far less antennae cable. Insignias are no longer used on the door since it requires a repaint job, etc., and instead, large decals are used in the rear and rear side windows.

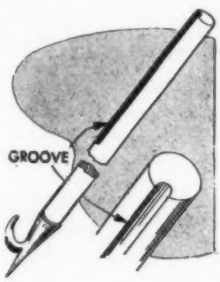
"Cities that have a rotation plan for turning in cars and light trucks, etc., may find these hints will give them quite a bit more on a trade-in as we have found. Incidentally, this mount is not used on fire apparatus."

* * *

TO SIMPLIFY USE OF PLASTER HOOKS

Every fire fighter who's wrestled with a refractory plaster hook in the smoke and dark, in forcible entry and venting operations knows the annoyance of losing the track of the hooked end of his plaster hook (pike pole to some).

Long ago in "Short Cuts" we published an idea of a ladderman to so mark or notch the pole that the user could always tell whether the hooked end was up or down or otherwise "off-center."



Now comes another simple method of accomplishing this same result, from *Popular Mechanics* of November, 1954. You simply cut a shallow groove along the handle on the same side as the hook. Then, when using the hook, you can tell at once which way the hook itself is facing by the feel of the handle in the palm of your hand.

(Our thanks to *Popular Mechanics* and its contributor, J. H. Muscat, of Malta.

I. A. F. C. Directors to Meet in New York

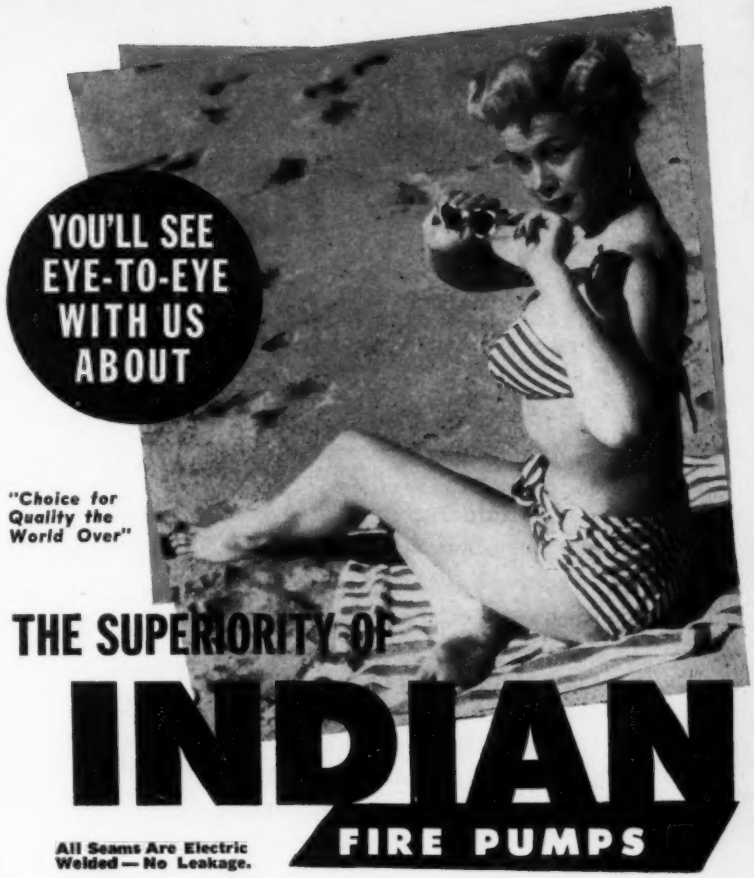
The annual meeting of the Board of Directors of the International Association of Fire Chiefs will be held at the Hotel Martinique, New York City, on January 6, 7 and 8, 1955.

Brick Sale Backfires?

Chicago has been forced to admit some detractions in the "bargain bricks" it has been selling the public at one cent apiece. For one thing, it is disclosed, they might explode!

John F. Ward, city purchasing agent said laboratory tests showed that the granite blocks in the bargain sale burst into chips under a temperature of 1,000 deg. F. The "Veedersburg bricks," another variety on sale, flaked under the same temperature, he said.

The tests were made as complaints poured in from purchasers of the 2 million former paving blocks in the sale. Complainants were chiefly persons who had snapped up Ward's suggestion that the bricks would make fine barbecue pits.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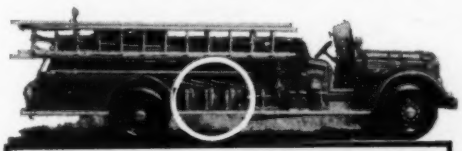

New truck delivered to Lafayette Fire District built by Coast Apparatus, Inc. of Concord, California. Note **INDIAN FIRE PUMPS** mounted on running board.

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Chris W. Wall, Fire Chief
Poughkeepsie, N. Y.

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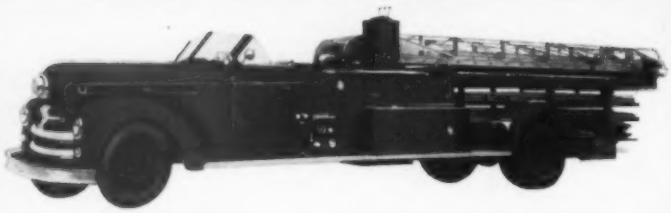

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Annual Reports Received

Singapore Fire Alarms Up

According to the Annual Report of the Singapore Fire Department for the year 1953, J. G. Shaw, O.B.E., Chief Fire Officer, "the substantial increase in fire calls, . . . noticeable since the war, continued during 1953." There were 998 in all, or 112 more than ever before in the history of the department. "At times the resources of the Brigade were taxed to the utmost" according to the Report.

Singapore fire fighters also have their troubles over traffic, which is growing. It is interesting to note that in Singapore "at present fire-engines must stop when the traffic lights are red." The report adds: "it has happened that a fire engine responding to a fire has been stopped at five sets of traffic lights within a mile of Central Fire Station," and "such a delay is inviting catastrophe," the Report emphasizes.

In addition to the 918 calls to genuine fires, there were 18 special service calls; 17 "malicious false alarms"; 38 "false alarms with good intent," and 7 "false alarms due to a mechanical defect" during the year.

Property loss by fire within City limits for the year was $2,659,599.

* * *

California Training Report Shows Progress

The Annual Report of the California Fire Training Program for 1953-4 recounts the training activities carried on throughout the State. The Program is a part of the activities of Trade and Industrial Education. The Bureau of Industrial Education cooperates with the Fire Service of California through a representative State Advisory Committee for Fire Training.

Two Fire Service Instructors' Conferences were held, in Santa Monica and San Mateo. Fifty-one fire department officers and training directors attended the former and 66 the latter meetings.

In cooperation with the Extension Division of the University of California, Berkeley, the first Arson Investigation Short Course to be held in the west was conducted on the campus of the U. of C., June 21 to 25. One hundred and sixty-five members of fire, police and sheriffs' groups, and others attended.

The Report recommends an administration course be set up for fire chiefs and later for men in lower ranks; the elimination of technical institute program and its replacement by instructors' conferences for drillmasters, and key department officials. Continuation of the traveling instructor program also was recommended.

* * *

New Haven Reports "Progress"

The Annual Report of the Department of Fire Service, City of New Haven, for the vear 1953 is a comprehensive "progress report." Following precedent, the book of 88 pages is well edited and printed on fine stock, with numerous halftone illustrations.

Chief Thomas Collins, who succeeded Chief Paul Heinz, summarizes the progressive developments of the department, after which the heads of the various divisions, such as training, fire prevention, shops, communications, etc., detail their operations.

The New Haven Fire Department, in

addition to training its own personnel, makes it a practice to instruct visiting fire personnel. In 1953 the department registered approximately 1500 officers and men at its Annual Field Day. In addition, over 475 of fire fighters from states in New England and elsewhere, have received field instruction, with 326 in attendance at the State Fire School in May. Batt. Chief Andrew J. Flanagan is Drillmaster.

Total fire loss in 1953 amounted to $190,888.34. There were 2810 alarms, of which 146 were false.

Chief Collins recommends an improved company inspection plan; a new and possibly more scientific attack strategy, further developments in training, and setting up special truck routes for haulers of hazardous liquids.

Book Shelf

EMERGENCY FIRST AID AND LIFE SAVING FOR RESUSCITATOR SQUADS—By Carl J. Kistle, Instructor of Fire Training, Bureau of Industrial Education, State Department of Education, Sacramento, Calif., 1954; 88 pages, mimeographed. Price 40c.

The manual is the latest publication in the State's Fire Training Program, directed by Thomas S. Ward, Supervisor of Fire Training.

The text opens with a brief history of artificial respiration and briefly covers the entire gamut of resuscitation and artificial respiration, including medical factors involved; mechanical as well as manual resuscitation practices; leading types of mechanical inhalators and resuscitators, and much abbreviated data on the effects of smoke, toxic fumes and gases on the human system, with recommended measures for treating those afflicted.

The manual also includes terminology and a bibliography of selected references on resuscitation.

THE CLASSIFICATION OF FIRE HAZARDS AND EXTINCTION METHODS. By James D. Birchall. 2nd Edition. Published by Ernest Benn, Ltd., London, Eng.: Distributed in U.S.A. by John DeGraff, Inc., 64 W. 23rd St., New York 10, N. Y., 5½ x 8½; 98 Pages and cover (paper). Price $1.50 (postage 8c ex.)

The book is intended as a summary in tabloid form of data on fire extinction, prevention and related topics from the viewpoint of the chemical engineer. Contains essential information on chemicals, plastics, dusts and liquids, grouped and classified.

Fate, and Firemen, Save a Life

Newark, N. J., fire fighters, en route back to quarters from a two-alarm blaze, stopped off to save a life, Oct. 11, when they were flagged down by a pair of anxious truckers.

Told that a man had been locked accidentally in a trailer of a trailer truck, the firemen of Salvage Co. No. 1 forced open the trailer door and found William Cheek overcome by lack of oxygen.

The fire fighters applied artificial respiration until the arrival of Deputy Fire Chief Phillip Reilly, who carries a resuscitator in his car. A liberal dosage of oxygen, and Cheek went home.

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For Practical Discussion of Current Fire Department and Fire Management Problems

MOST FIRE DEPARTMENTS DO SALVAGE WORK

LAST month we asked a representative group of municipalities in the 25,000 to 100,000 population group five major questions about salvage.

The questions, and summary of replies to date, make interesting reading. Here they are:

Question 1. Does your department perform salvage work at fires as a regular activity?

At this writing 53 departments have replied from every section of the country and Canada. Of these, only one claims to do no salvage work whatever. Two respondents say to a limited extent and three say they do as much salvage work as their limited manpower permits. A number of others mentioned the difficulty of performing good salvage work with shortened fire crews.

Question 2. Which apparatus carries the covers: (a) pumpers; (b) ladder trucks; (c) other units?

The most popular units for carrying salvage covers (the crews of which handle salvage) are ladders and pumpers. Just about half of the respondents state that salvage covers are carried on both ladder and engine company vehicles. The next most popular units for this purpose are rescue and emergency trucks.

It was interesting to note that a number of departments equip their assistant chiefs' cars and other vehicles with covers. Only one of the departments queried operates a special salvage unit.

Question 3. How many covers are carried on each unit?

There are no criteria for this question. In general, more covers are carried on ladder than on pumper units. And more covers are carried on rescue, emergency and salvage trucks than any other vehicles. But the number varies with the municipality.

What is true of number is true, apparently, of size of cover carried. Those recorded include 8 x 12; 9 x 12; 12 x 12 and 12 x 18 feet.

Question 4. What benefits do you believe result from salvage operations to (a) property owners; (b) fire department and (c) public in general?

Many of the respondents agree on the statement that "all concerned benefit," by having less smoke and water damage. The fire department, it is also agreed, has the satisfaction of knowing it is doing its utmost to keep losses to a minimum through good salvage work. Holding down losses benefits the department in its annual accounting of loss. All these facts cannot help but impress the public, it is also claimed.

Some of the advantage of good salvage include: cuts down expenses; permits the property to be re-occupied more quickly; preserves priceless heirlooms and relics; helps those who have no insurance as well as those who do; lowers repair and reconstruction costs; builds a lot of good will, etc.

One point practically all respondents stressed: that is the good will building influence of good salvage operations.

Question 5. What other salvage operations are performed in addition to spreading covers?

Details listed include: mopping up; dewatering; covering openings (protecting against the weather); cleaning up after fires; replacing and rearranging furnishings after fires; re-

HERE ARE THE QUESTIONS

1. **Does your department perform salvage work at fires as a regular activity?**
2. **Which apparatus carries the covers; (a) pumpers; (b) ladder trucks; (c) other units?**
3. **How many covers are carried on each unit?**
4. **What benefits do you believe result from salvage operations to: (1) property owners; (2) fire department; (3) public in general?**
5. **What other salvage operations are performed in addition to spreading covers?**

moving smoke and fumes; removing debris from buildings; sorting out damaged from undamaged material and leaving the premises in as near the livable condition they were before the fire.

The editors know there are a number of volunteer fire departments which also perform this work. They would be very pleased to have these departments as well as other paid departments participate in this discussion which will be continued in the January issue.

Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

Lloyd J. Curry, Chief, Kalamazoo, Mich.: Salvage work is a regular activity at all fires.

We carry one salvage cover on each pumper plus nine covers and floor runners on the ladder trucks. We expect to have a new salvage and rescue unit in service sometime this month which will carry complete salvage gear and will answer every regular alarm of fire.

Property owners benefit from lower water losses due to use of salvage covers. Many personal things which would otherwise be irreplaceable are protected.

The fire department has the satisfaction of knowing that they are doing their utmost to keep losses to a minimum through salvage work. These facts make an impression on the general public and bear greatly on relations between the public and the department.

Our salvage operations in addition to spreading covers include the following: proper ventilation which does much in eliminating smoke damage; covering open roofs and other openings against the elements; using care in extinguishment against unnecessary damage to property; general clean-up of fire area, leaving it as neat and safe as possible, carrying out debris and mopping up water.

Ben J. Zahn, Chief, Ann Arbor, Mich.: In our department we do as much salvage work as possible for the limited number of men responding to a call.

We carry four or five salvage covers on every truck and pumper that answer first call, and extra covers are carried on aerial ladder trucks. We use these covers to cover goods, or furnishings, and also to channel water out through windows and doors and down stairways.

We have found that it is a very good method of improving public relations, and have many nice letters on file from people who have benefited from the department's use of covers. We have found that the 12 by 14-foot covers are very convenient.

Samuel M. Ake, Chief, Altoona, Pa.: This department does a certain amount of salvage work at fires as a regular part of our department activities.

All ladder companies carry from three to six covers.

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Benefits from salvage operations include the following: 1. Saves property from water damage; 2. keeps the department conscious of their saving rather than destructive ability; 3. Makes for good will between the department and the public.

Our operations include opening drains, sweeping out water, covering small holes in roofs until repairmen can get on the job, and making temporary chutes to convey water out of the building.

C. L. Cox, Chief, Durham, N. C.: It is standard procedure here in Durham to use salvage covers whenever possible. Usually members of ladder companies take care of this phase of operation; however, in some instances members of engine companies assist also.

Ladder companies carry at least ten covers and all engine companies carry two to four. Our former Chief, Frank W. Bennett, inaugurated salvage practices in the 20's and we have tried to improve as time passed.

After numerous fires many owners and occupants have expressed amazement at there being none or very little damage to contents of buildings other than in the immediate fire area. Everyone gains in this program. Owners sustain less damage, insurance losses are less, and the fire department builds a lot of good will.

In addition to spreading covers over contents of buildings, our practice is to remove water from all floors as quickly as possible by use of brooms, squeegees, and sometimes the use of chutes. Also, particularly in dwellings, the drying of floors by mops is carried out. This makes the housewife very happy, and the fire department has won a friend for life.

V. L. Crusinberry, Chief, Sioux Falls, S. D.: For several years, the Sioux Falls Fire Department has practiced salvage operations as a regular operation. Salvage covers are carried on our aerial and ladder or service trucks. About fifteen covers are carried on each piece of apparatus, and, in addition to other salvage tools, such as brooms, squeegees, mops, mop pails, wringers, and sponges, we carry rolled felt paper, lath, hammer and nails.

No doubt, one of the largest benefits is the actual saving of property, thus cutting down the losses. It is an ideal program to promote good public relations which results in a feeling of good will towards the fire department. If a fire department doesn't have the reputation of being efficient in their work, they will be lacking in good public support, and without that support, it is rather difficult for a fire department to expand and grow with its community.

Along with the use of salvage covers, one of the first objectives of this department is the removal of water by squeegees, mops, sponges and the use of small portable pumps. In buildings where partial damage has occurred, or where there are salvageable contents, all openings are closed either with felt paper, salvage covers or other material which might be available. Our policy is to leave a place of business or a home in as livable condition as is possible. I am sure the owner profits from this practice and appreciates the efforts. In the end we receive better support and cooperation from the public.

Frank L. Veasley, Chief, Cleveland Heights, Ohio: It is a definite practice and rule in our department to include salvage operations in the extinguishment of any type of fire.

Salvage covers are carried on our ladder trucks, the emergency squad and in the assistant chief's car.

Truck companies carry four heavy duty tarpaulins for outside coverage and six light tarpaulins for inside work.

The rescue squad carries six covers for inside work, and the assistant chief's car carries two for inside work.

The benefits which accrue from this type of work are:

1. Protects the property from unavoidable water and debris damage during the fire, and from potential weather damage after the fire.

2. Increases efficiency of fire fighting operations by eliminating problem of damage to property and contents. Overhauling operations are thereby made easier.

3. Increases the respect of the public for the fire department in their efforts to protect the property both during and after the fire.

In addition to the regular salvage operation of spreading covers, we perform the following: All debris is removed from the building; all excess water is mopped up; all broken windows and doors are covered with building felt; if any small openings are made or burned in roof or outside walls, they are covered with building felt.

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H. J. Richardson, Chief, Gainesville, Fla.: Our department performs salvage work at fires as a regular activity.

Each piece of apparatus carries at least five covers.

We feel the following benefits result from this practice:

1. Cuts down water smoke damage to contents.

2. Keeps down our annual fire loss from water and smoke damage, also makes clean-up easier after fire.

3. Good public relations resulting from clean-up after fires.

We clean up after all fires; mop out water; arrange the furniture back where it was originally; wipe off all dust, smoke, ashes, etc., and try to leave everything in as good shape as possible after every fire we have.

J. P. Newark, Chief, Grand Forks, N. D.: Salvage work is a regular activity of our department.

Each unit carries four or five covers.

The property owner has a chance to move back into his quarters or to continue his business in a much shorter time because the water damage has been kept to a minimum by the use of salvage covers. Many minor fires have caused 90 per cent water damage and 10 per cent fire damage before we used covers.

We get a certain amount of satisfaction out of knowing that we have kept the water damage down to a minimum and it creates an air of efficiency of the department in the eyes of the public.

We believe that the public in general is benefiting from this practice by our protecting their property and in a small way keeping the insurance rates down.

Our salvage operations include: Seeing that drains are open or to have the basement pumped out in case a large amount of water is used; use mops or squeegees to dry the floors; wipe off or dry furnishings that happen to get wet; use smoke extractors to air out the building and then use a deodorant to get rid of the smoke odor.

John J. Nelligan, Chief, Bangor, Me.: Our department performs salvage operations as a regular activity.

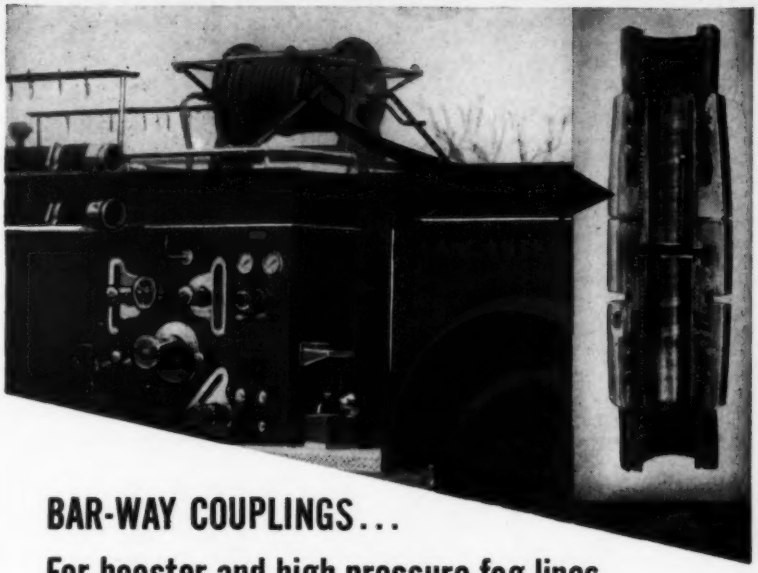
All trucks carry canvas salvage covers. The rescue-emergency truck carries 22 or 23; pumpers and ladder trucks carry two each.

Considerable benefits and savings result from salvage operations. The citizen's property, buildings and contents are saved from any unnecessary damage or loss. The quick application of salvage work here means a large saving, especially in high value merchandise and stock, or home furnishings and fixtures.

The benefits to the fire department result from the fact that the department is trying its best to keep all fire losses as low as possible and that it is equipped and ready to prevent any unnecessary damage or loss from fire.

We believe the public in general appreciates that the department is doing its utmost to keep losses down and waste and damage to a minimum.

In addition to spreading salvage covers, we carry plenty of brooms, mops, mop wringers and pails to remove water from floors. We cover any openings left on roofs, etc. This



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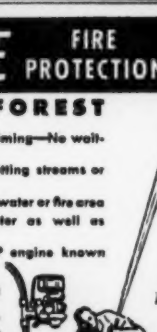

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is important especially during stormy weather. Our trucks also carry four smoke ejectors to immediately get the smoke out of rooms or buildings. We also carry a small electric cellar pump and small hose to go with it for pumping water out of cellars—a very handy piece of equipment.

Jesse G. Hunter, Chief. Cedar Rapids, Ia.: Our department performs salvage work as a regular activity at all fires.

Salvage covers are carried by all pumpers, ladder trucks and the assistant chief's car. The pumpers carry from two to six covers, depending on the available room. The 85-foot and 65-foot aerials carry eight and the assistant chief's car, three.

The benefits to property owners from salvage operations are the saving of property from water damage, dirt, etc., and in addition, having the mess caused by the fire cleaned up wherever possible. The principal benefits to the fire department are a lower fire and water loss and the good will received from the public as a result of the clean job they have done after a fire.

In addition to spreading covers, we attempt to salvage materials; move stock, if necessary; cover holes in roof; remove water and debris, and, in short, save all that we possibly can.

Jay V. Redmond, Chief, Lakewood, Ohio: Salvage covers are carried on pumpers and ladder trucks, one cover on each pumper and nine on each of two ladder trucks.

The benefits resulting from performing such operations include:

1. Protection of property from further damage by water and debris. The tenant is able to carry on his business or continue to live in the building.

2. Improvement in public relations. In doing this work, we are able to maintain a good insurance rating and a high position in the National Fire Wastes Contest. It gives the members of the department a feeling of pride in work well done.

3. Holds or improves fire insurance rates. Keeps the public proud of their department and the dollars spent to maintain it. Makes them feel that good service is always at hand, and dispels the old fashioned fear that firemen destroy.

Other salvage work performed by this department includes removing water and debris from buildings; sweeping and mopping floors; protecting undamaged contents; covering broken windows, doors and roof openings with building paper to protect contents from rain, snow, and cold weather.

Albert W. Fisher, Chief, Johnstown, Pa.: Our department performs salvage work at fires in every instance where it appears that such precautions will lessen the loss to property. The training school conducted by our department includes salvage work as one of the highlights on the program of activities.

All department apparatus—pumpers, high pressure truck, ladder truck—carry salvage covers. Four covers are carried on each of the pumpers and on the high pressure truck; two are carried on the ladder truck.

Salvage operations are definitely a benefit to the property owner. Whether or not a building or its contents is covered by insurance, preservation of personal property is advantageous to the owner.

These operations demonstrate to the public that preservation of property is the department's main objective, second only to the preservation of life. These operations boost good public relations inasmuch as some persons incorrectly assume that firemen disregard property value when fighting fire. The general public also benefits by the fact that salvage operations cut down fire losses, which govern fire insurance rates.

Every piece of apparatus carries mops, brooms, water scoops, buckets, electric saw, brace and bits, and augers of different types. Any or all of these are used as needed.

George J. Sanders, Chief, Hot Springs, Ark.: Two salvage covers are carried on each of our pumpers and ladder trucks.

We feel that salvage operations greatly reduce the amount of loss to owners and thus it becomes a very good public relations practice.

Our salvage work includes the removal of all water from buildings.

A. W. Lang, Chief, Enid, Okla.: We attempt to carry on salvage operations whenever needed. All pumpers carry three covers and other salvage equipment.

The benefits resulting from such work include the following:

1. It cuts down on additional property damage.

2. It helps to build up better public

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relations. The department is left with the impression that they have made better a job well done, when they can see the loss has been cut down due to their salvage work. Through salvage and overhaul operation practices, there is a better chance of preserving evidence at a fire in attempting to determine the cause. Also, much valuable information can be destroyed with the old way of trying to wash everything out the door.

3. It leaves the public with the feeling that the fire department is trying to do its best to cut down on damage at a fire. It doesn't hurt to educate the public in the fact that fire departments are doing a better job of salvage than in years past. An example now and then is good.

In addition to spreading covers, we remove smoke from the building as quickly as possible. We remove water and debris from the floors and basements, cover up holes in the roofs and sides of building that might have burned through or which were used in ventilation. Often a little salvage work can be used in making forcible entry. We have just acquired a portable light generator which is now in service in the hope that it will be of great value in helping to perform a better job of salvage. It also will bring about better public relations because we will have a better opportunity to help in many ways those persons who are beyond means of helping themselves.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of November, 1954.

Month Ending November 30, 1954

Mobile, Ala. — Dunbar Junior High School destroyed.
Prescott, Ariz.—Prescott Lumber Co. yard, office building, dwelling and four tourist court cabins, destroyed.
Superior, Ariz.—Coleman Hotel and another building destroyed; nearby building damaged.
Center Hill, Ark.—Butler Gin & Feed Co. plant destroyed.
Russellville, Ark.—Three buildings at Satterfield Lumber Co. plant destroyed.
Campbell, Cal.—Campbell Frozen Food Locker, damaged.
Los Angeles, Cal.—McCulloch Motors Research building destroyed.
Los Angeles, Cal.—Baked enamel processing plant owned by George Wilson, destroyed.
Oakland, Cal.—Plant of Oakland Engineering Co. destroyed.
Vallejo, Cal.—Red Top Dairy Co. ice cream plant, warehouse and refrigeration plant, damaged.
Westminster, Cal.—Plumbing supply warehouse of Pangborn Plumbing Corp., destroyed.
Yuba City, Cal.—M & M Rice Dryer near Tierra Buena, Sutter County, destroyed.
Lisbon, Conn.—Lisbon Textile Print Works damaged. Explosion.
New London, Conn.—Mohican Hotel damaged.
Norfolk, Conn.—H. D. Catty Corp. plant, manufacturers of packaging foil, destroyed.
Wilmington, Dela.—Boulevard Bowling Center destroyed.
Bartown, Fla.—Building housing an automobile agency and law library of V. R. Hudson and Jesse Wilson, destroyed; Polk County Democrat, semi-weekly newspaper, damaged.
Winter Haven, Fla.—Plant of Winter Haven Daily News-Chief, destroyed.
Atlanta, Ga.—Atlanta Blue Print & Supply Co., destroyed. Defective wiring.
Conyers, Ga.—Metwood Products Co., local cabinet shop, damaged.
Hapeville, Ga.—Club building of American Legion Post 117, destroyed.

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Patterson, Ga.—Patterson Feed Mill and E. A. Walker Feed Mill, 35 feet away, destroyed.
Lewiston, Ida.—Lewiston's Roundup Park equipment destroyed.
Chicago Ill.—Flat building at 1431-41 S. Central Park Avenue, damaged. Defective wiring.
Chicago, Ill.—Rubber and plastic products plant of Fishman Plastics Co., damaged.
Chicago, Ill.—Chicago Historical Society museum destroyed.
Danville, Ill.—Sears-Roebuck store, destroyed.
LeRoy, Ill.—Grain elevator, destroyed.
Loda, Ill.—Loda Poultry Co. and Dennis & Healy Packing Co. and a beer distributor, destroyed.
Urbana, Ill. — Twenty-eight of Lincoln Lodge motels 32 units on University Avenue, destroyed.
Hartford City, Ind. — Storagewall Division of Willman Lumber Co., destroyed. Overheated stoker furnace.
Switz City, Ind.—Green County Farm Bureau grain elevator damaged.
Dyersburg, Ky.—Grocery store, owned by Mrs. Marguerite Bennett; spread to three vacant buildings, a garage and another grocery store, in Crittenden County, destroyed.
Lexington, Ky.—S. S. Kresge Co. store damaged.
Pikeville, Ky.—Two buildings and several thousand gallons of gasoline and oil at Gulf Refining Company's nearby Shelbiana bulk plant, destroyed.
Monroe, La.—Warehouse and 1,900 tons of surplus rice belonging to the Commodity Credit Corp., stored at the old city-owned Selman airport, destroyed.
New Orleans, La.—Cook Truck Line garage destroyed; storage building of New Orleans Cigarette Service Corp., damaged.
Baltimore, Md.—Guilford Bowling Lanes, destroyed.
Baltimore, Md.—Lumber yard of Furst Brothers Co., Inc.; extended to Baltimore Tool Works, American Transfer Co. terminal and all warehouse and dwellings in block bounded by Leadenhall, Race, Cross and West streets, destroyed.
Rockville, Md.—Buchanan & Ginery Construction Corp. warehouse, destroyed.
Boston, Mass.—Apartment and business building damaged.
Brockton, Mass. — Building housing Brockton Rug Co., Reardon Drug Store and Billings Chocolate Co., damaged.

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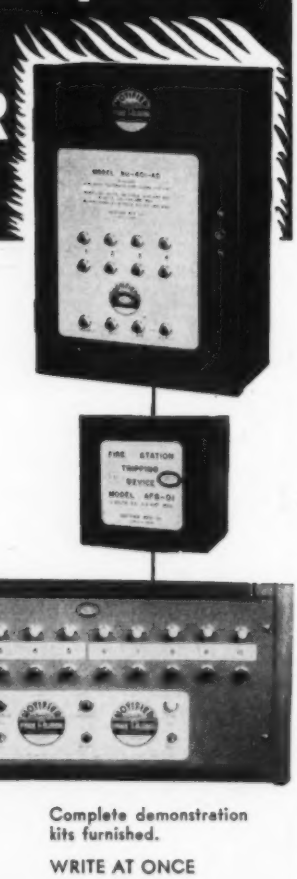

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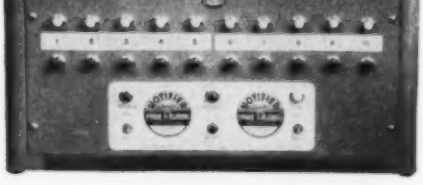


NOTIFIER Automatic FIRE ALARM

NOTIFIER MFG. CO.

Complete demonstration kits furnished.

WRITE AT ONCE

Dept. A-9

Notifier Mfg. Co.

239 So. 11th—Lincoln, Neb.

East Boston, Mass.—Freight shed of Boston & Albany Railroad and baled paper and rags, damaged.
Gloucester, Mass.—Hawthorne Inn, destroyed.
Bad Axe, Mich.—Nugent farm implement store, three miles south, destroyed.
Galesburg, Mich.—Bowling alley, snack bar and Gale Theatre damaged; stockroom destroyed. Cigarette tossed into ventilator duct.
Duluth, Minn.—Gamble-Robinson Co. wholesale grocery firm warehouse, destroyed.
Glenville, Minn.—Elementary school destroyed.
Mankato, Minn. — Two adjoining taverns, destroyed.
Roosevelt, Minn.—The Nighthawk, a supper club, destroyed.
Biloxi, Miss.—Sun-N-Sand restaurant and lounge on Highway 90, a mile west, destroyed.
Jackson, Miss.—White Drug Co. destroyed.
Leland, Miss.—Leland High School building destroyed.
Poplarville, Miss.—Sheff Theatre destroyed.
Cairo, Mo.—Cochrane Implement Co. building, destroyed; Masonic Temple in the same building, badly damaged.
Jameson, Mo.—Eben Estes & Sons, popcorn processing plant, destroyed.
St. Louis County, Mo.—Independent Grocers Association supermarket destroyed.
Springfield, Mo.—Hickory Hills County clubhouse, four miles east, destroyed.
Dover, N. J.—Park Union Lumber Co. destroyed; adjoining building occupied by Snow Glass & Mirror Co., destroyed. Dwelling in rear of Snow firm, destroyed.
Hoboken, N. J.—Daley Express Co. terminal destroyed.
Long Branch, N. J.—Hotel Versailles, destroyed.
Longport, N. J.—Aberdeen Hotel destroyed.
Newark, N. J.—Row of wooden garages owned by Frank Ansette, damaged.
North Arlington, N. J.—Bowl-O-Drome damaged.
Perth Amboy, N. J.—Harrow's Youth Center, destroyed.
Plainfield, N. J.—Vincent Chapel, part of the First Methodist Church, destroyed.
Trenton, N. J.—Brown Trucking Co. warehouse operated by Anthony V. Citro, and adjoining dwellings, destroyed. Loss included trucks of the Coca-Cola Bottling Co.
Union, N. J.—Three buildings of Tuscan Dairy Farm destroyed.
Woodbridge, N. J. — Woodbridge Methodist Church, damaged.
Hobbs, N. M.—Well of Shell Oil Co. destroyed.
East Aurora, N. Y.—East Aurora Basket Co. destroyed.
Norwich, N. Y.—Dairy barn and silo on farm of Leon Wales, destroyed.
Salamanca, N. Y.—Building in heart of business district owned by Aah Hat Co., occupied by hardware store and offices, destroyed. Short circuited fuse box.
Henderson, N. C.—F. W. Woolworth Co. store destroyed; adjacent Citizens Bank and Daniel Hardware Co., damaged. Short circuit.
Hickory, N. C.—Framing and springing department of Chubb Chairs, Inc., destroyed.
Monroe, N. C.—Benton Heights School damaged.
Southern Pines, N. C.—Automobile agency and oil company owned by Herbert Cameron, destroyed. Gasoline truck exploded.
Tarboro, N. C.—Plant of General Plywood Corp., just outside city limits, destroyed.
Jamestown, N. D.—Midwest Machine Co. destroyed.
Burton, Ohio—Burton Packaging Co. and Geauga Times-Leader, destroyed.
Toledo, Ohio—Maumee Chemical Co. destroyed. Explosion.
Wadsworth, Ohio—Eejay Co., manufacturers of storm doors and windows; Wadsworth Lumber Co. and Agri-Industries, manufacturers of grinding compounds, destroyed.
Allen, Okla.—Allen School destroyed. Gas explosion.
Ashland, Ore.—Dailey's Motel destroyed.
Bordman, Ore. — Walker Hayes grocery and apartments, destroyed.
Madras, Ore.—Rainbow Court Motel destroyed.
Medford, Ore.—Edmonds Lumber Co. destroyed. Sparks.
Baumstown, Pa.—Dance hall and Gilligan's Grill destroyed. Explosion.
Doylestown, Pa.—William F. Fretz and Son clothing warehouse, damaged. Oil burner explosion.
Erie, Pa.—Barn at Waldameer Park destroyed.
Nanticoke, Pa.—West Nanticoke School building, opposite bank of Susquehanna River in Plymouth township, destroyed.
New Castle, Pa.—Shenango China, Inc., plant damaged.
Oil City, Pa. — Polish National Alliance Hall destroyed.
Philadelphia, Pa.—Big store for men and boys, owned by Abraham M. Botman, damaged.
Philadelphia, Pa.—Building occupied by H. C. Allen Co., Wire Rope Corp. of America and district agency of Prudential Life Insurance Co. of America, destroyed.
Pittsburgh, Pa.—Three gasoline barges moored at Atlantic Refining Co. dock, destroyed.

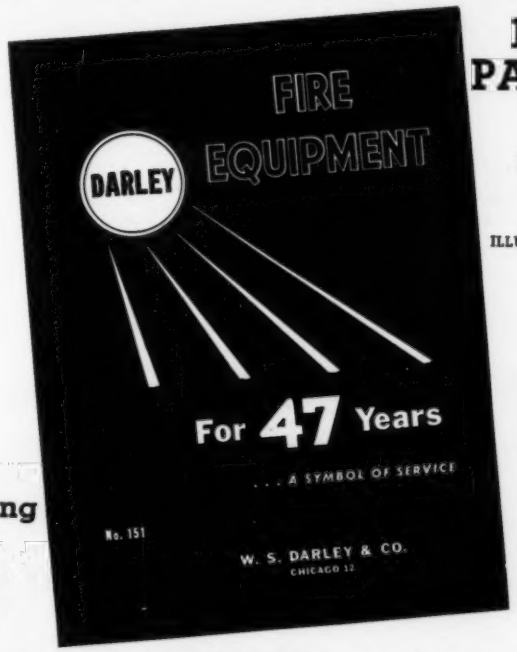
Pittsburgh, Pa.—Harris Brothers Appliance Store, Kramer Variety Store, Aaron Clothing Store, Weizenbaum's Ladies Apparel Store and Metzger's Tots and Teen Shop, damaged.
Scranton, Pa.—Hagen Lumber Co. yard and buildings destroyed. Possibility of arson.
Jackson, Tenn.—Kirby Jones Furniture Store destroyed.
Medina, Tenn.—Illinois Central Railway crop-loading shed, destroyed.
Nashville, Tenn.—Classification Center Building, occupied by Headquarters and Headquarters Co., 175th Tank Battalion, Tennessee National Guard, destroyed.
Pressmen's Home, Tenn.—Residence of late George L. Berry, head of the Pressmen's Union, destroyed.
Sharon, Tenn.—Feed mill destroyed.
Aldine, Tex.—Aldine High School destroyed.
Athens, Tex.—Athens High School building, destroyed.
Dallas, Tex.—West Park Pharmacy, Sereatha's Beauty Studio, Suburban Optical Co., Simon David Grocery and Dallas Cleaners & Tailors, damaged.
El Paso, Tex.—Twenty of the thirty-one rooms of the Shelton Hotel which covers the upper floors of three stores on the 300 block of South El Paso street, destroyed. Two stores, the Three Brothers Clothing Store and Shamley Co., an office supply firm, also destroyed; third store damaged.
Houston, Tex.—Travis Elementary School damaged. Arson suspected.
Plainview, Tex.—Plainview Cooperative Gin Co., destroyed.
Silsbee, Tex.—Kirby Hotel destroyed.
Waco, Tex.—Main auditorium of Austin Avenue Methodist Church destroyed.
Wichita Falls, Tex.—Moneghan's Home Appliance Co. destroyed.
Honeyville, Utah—Lewis Food Co. destroyed.
Price, Utah—Ward Chapel of Church of Jesus Christ of the Latter-Day Saints, destroyed.
Bristol, Va.—Building known as the "Market House" near the city's business center, damaged. Included were F. C. Lowery restaurant, K. G. Messeroia bowling alley, Ed Kaylor grocery store, shoe warehouse, union hall and real estate office.
Broadway, Va.—Linville Creek Church of the Brethren in Rockingham County, destroyed.
Christiansburg, Va.—Building housing a furniture store, 5 and 10 cent store, bowling alley, billiard parlor and apartments, destroyed.
Radford, Va.—"Cove Lodge" described as one of the showplaces on the eastern shore of Claytor Lake, destroyed.
Enumclaw, Wash.—General store, bakery and offices damaged. Short circuit.
North Bend, Wash.—McClellan Hotel destroyed.
Quinault, Wash.—Ralph Bowling Cafe and apartments destroyed.
Seattle, Wash.—White Center Heights Housing Project destroyed.
Vancouver, Wash.—Clark Hotel, Vancouver Restaurant and Salvation Army Store destroyed. Oil furnace backfired.
Montcalm, W. Va.—Masonic Temple and Pentecostal Holiness Church destroyed.
Kaukauna, Wis.—Nightingale Ballroom at Highways 96 and 41, three miles north, destroyed.
Watertown, Wis.—Building housing Feist Liquor Store, Albert Shoe Store and Moose Lodge Hall, damaged.
Edmonton, Alta.—Canadian Army warehouse destroyed. Sparks from welder's torch.
Vancouver, B. C.—Marine Building, tallest structure in city, damaged.
New Glasgow, N. S.—I. Matheson Co. destroyed.
Guelph, Ont.—Saint Stanislaus Novitiate School of the Jesuit Fathers, a mile north, destroyed.
Midland Ont.—Public school destroyed.

Uniform Allowances to Be "Uniform"?

Recently New York City's cops received a $125 annual uniform allowance, which burned up fire fighters and members of other city services who must wear uniforms. In short, there's nothing uniform about the city's uniform policy.

Now comes the information that the fire fighters of the N. Y. F. D. Uniformed Firemen's Association who, under their president, Howard Barry, have been urging Mayor Wagner to do right by firemen, are nearing an agreement with City Budget Director Abe Beame on a uniform allowance for the city's 11,000 personnel. If the latter get the same allowance as the cops, and it seems likely, it will cost the City about $1,300,000.

Write Today For This NEW Catalog



100 PAGES

1100 ITEMS

750 ILLUSTRATIONS

Everything for Fire Depts.

W. S. DARLEY & CO.

ESTABLISHED 1908 — CHICAGO 12, ILLINOIS

Oil Reservoir — Filled through pipe plug in bonnet — assures positive lubrication of stem threads.

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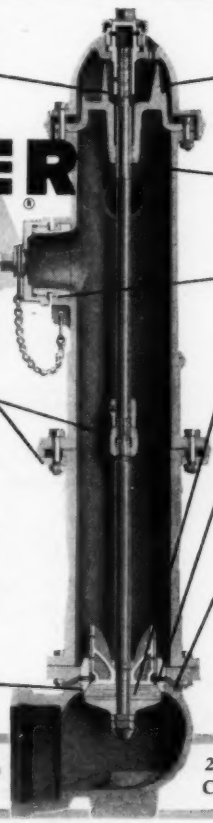
AWWA Improved
FIRE HYDRANT

Safety Stem Coupling and Safety Flange — Coupling and flange break on impact, preventing damage to stem and barrel. Permits convenient facing of nozzles. Extension sections may be added or upper barrel may be changed from two-way to three-way hydrant without digging or water shut-off.

Bronze Seat Ring — Straight threads for easy removal.



Dry Top Design — Prevents freezing of stem threads.

"O" Ring Seals — Make permanent water-tight seal around stem.

Breech Locked Nozzles — Interlocking lugs prevent blowout.

Compression-type Main Valve — Closes with water pressure.

Double Drain Valves — Integral part of main valve assembly.

Double Drain Openings — Force flushed each time hydrant is operated.

Write for Catalog A-201 today or contact your Mueller representative.

MUELLER CO.
Dependable Since 1857

2501 Chestnut St., Chattanooga, Tennessee

Philadelphia Explosion

(*Continued from page* 1131)

the University of Pennsylvania.

Phosgene gas is known to cause certain characteristic injuries to the lungs and respiratory tract. These injuries, it is said, were not found at autopsy in any of the victims.

So far, there are no reports of death as a result of breathing fumes encountered at the explosion, although they are known to cause severe damage to the eyes and respiratory tract.

It is known, however, that even when ethylene-dichloride is swallowed it causes damage in the lungs and respiratory tract similar to that seen in the victims of the explosion.

The doctors concluded that it "probably never will be known whether phosgene or one of the three other compounds or a combination thereof, was responsible for the deaths."

Investigation Disclosures

The several investigations, some of which, as reported, were instituted within 24 hours of the tragedy (and which are continuing as this is written) have brought to light the following:

The "fire fighters who sped to the Berg Laboratories on the 28th were completely in the dark as to the explosive danger they faced," according to high fire department officials. Normally the first due companies, in whose district the occupancy is located, should have learned of the hazard through company or other inspection. But, it is disclosed that the Laboratories had not complied with certain licensing regulations.

Commissioner of Licenses and Inspections Walter S. Pytko said that the plant had failed to do two things: (1) obtain a city permit for the installation of the tanks and (2) to obtain a license to use them for the storage of chemicals.

Before issuance of such a license, Pytko said, the tanks would have had to pass inspection by his office and the fire marshal's to determine whether they were strong enough and properly fitted for the use to which they were put. That is where the fire department would have become aware of an unusual hazard at the plant.

When storage facilities for toxic or explosive materials are licensed, he said, the fire company that would be the first to answer an alarm from the plant involved, is formally notified. Men of that fire company then make their own on-the-scene inspection of the facilities so that the "first-in" company knows where the danger exists and can notify men of later arriving companies.

The "first-in" company at the Berg plant was Engine 2, which is located at 7th and Norris Streets. It lost two of of its men.

It was disclosed that complaints against the Charles W. Berg Laboratories were lodged by citizens with city officials as far back as 1951, according to press reports. Members of the staff of Detective Inspector John F. Driscoll reportedly learned from the residents of the areas that complaints against the plant for careless burning of rubbish and other minor infractions were made by unidentified persons to the plant operators and to unnamed city officials.

It was also brought out that a licensed installer was not employed in setting up some of the apparatus at the plant. Furthermore, that the tanks violated zoning regulations and that the Berg company was not properly licensed for the storage of chemicals.

The extent to which the Fire Department was informed of these derelictions has not been fully explained, but from the evidence it would appear that it was completely ignorant of conditions.

The violations of municipal regulations were cited by City Managing Director Robert K. Sawyer, following a meeting to coordinate the various investigations being undertaken. Sawyer said the Department of Licenses and Inspections represented by Commissioner Walter S. Pytko, has asked the City Solicitor's Office to take the proper civil action on the violations. He also said an investigation by the District Attorney's Office was being made to determine if criminal negligence is involved.

Following the conclusion of the investigation conducted jointly by the District Attorney's staff, the Fire and Police Departments, the City Bureau of Licenses and Inspections, the Law Department and the Department of Health, District Attorney Richardson Dillworth issued an 11-page statement on the explosion the salient facts of which are as follows:

Investigators found that the 4,100-gallon storage tank which exploded, emitting deadly phosgene,* was "adequately constructed" of a material—aluminum—

*At the time this was issued the doctors' reports previously mentioned had not been released.

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Saves Space, Weight, Handling
Moisture-Proof Plastic Package
for FOAM Extinguisher Charges

National offers 2½-gal. Foam & Soda-Acid Hand Extinguishers

• National Foam Charges for the 2½-gallon Chemical Foam Extinguishers now come in air-tight, heat-sealed, plastic bags. Save space (35%) . . . save weight (13.4%) . . . easy to dispose of when empty. Store for long periods without deterioration. National Cold-water Charges can be used in any make of 2½-gallon foam fire extinguisher. Write for data, prices on this and other National Foam Products and Devices for POSITIVE fire protection.

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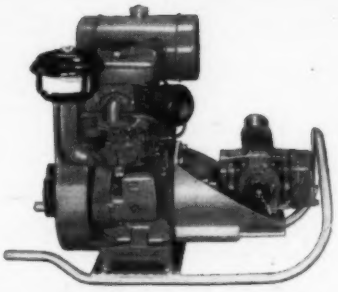
Headquarters for Foam Fire Protection—WEST CHESTER, PA.

PACIFIC PUMPERS
famous for power plus portability



The WX-10 is a heavy duty general utility pumper built for the toughest service conditions. The 7½ hp engine puts out exceptionally good volume and pressure . . . up to 32 gallons per minute at 250 lbs. pressure.

With "sled-type" mounting and weighing only 150 lbs., the WX-10 has the portability and maneuverability of a much smaller pumper . . . even in rough terrain. Equipped with electric starter the WX-10 is ideal for tanker use and other semi-portable applications.

Dimensions:
Length 30". Width 21". Height 22".

Weight:
150 lbs. (with starter 170 lbs.)

Performance:

Pressure.....	50	100	150	200	225	250
Gallons per minute	40	38	37	36	35	32

PACIFIC "Pacolized" Hose

is a made-to-order partner for all portable or emergency water supply equipment . . . the best lightweight hose you can buy. "Pacolized" Hose is permanently mildew-proof and rot-resistant, the most flexible hose of its type.

Specify "Pacific" when you buy pumpers, hose and accessories . . . write to "Pacific" for full information on the WX-10 and the full line of portable fire equipment.

PACIFIC *Marine Supply Co.*
FIRE EQUIPMENT DIVISION
SEATTLE 1, WASHINGTON

suitable for the storage of the chemical compounds it held.

The report said that the tank's safety valve also met the requirements of the law even though it had become clogged.

Dillworth said that the fact that the clogging was permitted without detection "indicates a want of due care on the part of an employe of the company."

He said it doesn't warrant prosecution against the laboratory owners, however, "for the facts do not indicate any act or failure to act on the part of the owners which could be construed as a reckless of wanton disregard for the safety of others."

History of the Tank

The tank was built in 1946 by John Kolb, Philadelphia, trading as the Keystone Coppersmithing and Metal Works, that city, for use by the Jacob Hurnung Brewery Co. as a storage tank for beer. It was one of two built by Kolb for Hornung and later bought by Berg. The other (as explained) did not explode.

Both tanks remained on the Hornung premises until about last January 15 when Berg bought them. Before being installed at the Laboratory, however, the tanks were worked on by the Industrial Coppersmithing Co., Philadelphia. The work included installation of coils, the closing up of manholes and construction of opening in the tanks.

Berg installed the tank that exploded in April and first used it in July for the storage of three chemicals—ortho-dichlorobenzine, propylene-dichloride and ethylene-dichloride. After one week the chemicals were drained into drums and the tank was cleaned out with soap and water.

On August 27 it was used for storage of cocoanut oil, a fatty acid. The oil remained in the tank for several weeks. Upon its removal, the tank was again cleaned and the aperture at the bottom was left open so it could drain properly.

On October 22, six days before the blast, a mixture of the three chemicals was again placed in the tank. At the time the chemical compound was pumped into the tank, the company's stationary engineer determined that the safety vent was working properly, according to his own statement.

Dillworth said that it is the opinion of chemists who reconstructed the manner in which the explosion occurred that "the chemical reaction in the tank must have been brought about by a residue of water and fatty acids in the tank, and that the gases created thereby must have condensed in the vent so as to partially block it up to a point where the gases being generated could no longer escape, thus causing the explosion."

Final Conclusion in Doubt

At this stage, the final outcome concerning placing of blame and the subsequent punishment, if any, is indeterminable.

As to the reason advanced by officials of Berg for failure to obtain the necessary licenses, the District Attorney said they had no valid explanation. But he added "the failure to obtain zoning, building, installation, and storage licenses are not of themselves wanton, reckless acts upon which a charge of involuntary manslaughter can be based."

And he added: *"The obtaining of such licenses would not have prevented the ac-*

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Greater Protection More Freedom of Movement

in ISSCO's new aluminized asbestos turnout coat

Here's a turnout coat that's light, pliable, heat-reflecting, and water repellent as well. This new ISSCO coat is far less cumbersome on a ladder; far more effective up close to a fire where its highly polished aluminized surface (not mere foil) reflects most of the heat. Coat has wristlets sewn into sleeves, is wool lined to the waist (for winter comfort), and fastens with big easy-to-manage snap hooks.

CLIP COUPON BELOW FOR FREE BROCHURE

when heat is intense

Use ISSCO's heat-reflecting aluminized asbestos hood and gloves. Gives you that extra protection around face and hands in approaching fire and in flash-backs. Hood has built-in helmet—adjustable to size: ¼" laminated safety glass window. Gloves shown are ISSCO 114-AL (One of many styles we furnish).

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Protective clothing for every situation!

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Please send me your new folder describing aluminized asbestos protective clothing

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cident. The explosion was due to the negligence of an employe, not to any fault of the building, installation or storage. The fact is," he said, "that if the company had applied for the necessary licenses, the City would have had to issue them, as there was nothing improper in the company's operations."

As to the City's regulations being weak, he said: "The investigation revealed no basic weakness in the regulations . . . the accident was caused by the failure of an employe to thoroughly clean out the tank. *"No amount of inspection by government agencies can correct all human failures,"* he stated, but added that "this does not mean the regulations cannot be improved, and Mr. Sawyer, the Managing Director, is reviewing that matter now."

As to the complaints of residents, Mr. Driscll repeats that they were made in 1951, but that the company in burning its refuse on the premises had nothing to do with the present operation.

October Fire Losses

Estimated fire losses in the United States during October amounted to $57,668,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $57,668,000 loss represents a decrease of 15.9 per cent from losses of $68,551,000 reported for October, 1953, and a decrease of 10 per cent from losses of $64,087,000 for September, 1954.

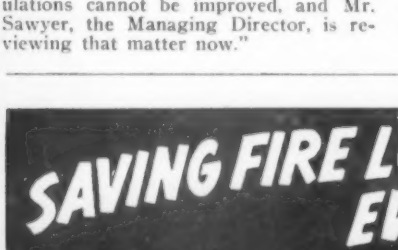
Losses for the first 10 months of 1954 now total $725,440,000, a decrease of 3.5 per cent from the first 10 months of 1953, when they amounted to $751,896,000.

These estimated insured losses include an allowance for ininsured and unreported losses.

Month	1954	1953	1952
January	$86,493,000	$76,659,000	$74,155,000
February	78,928,000	72,706,000	69,925,000
March	84,821,000	83,471,000	72,254,000
April	77,933,000	67,362,000	67,380,000
May	62,282,000	64,239,000	62,354,000
June	65,533,000	67,644,000	58,585,000
July	69,532,000	74,938,000	61,675,000
August	78,163,000	107,713,000	56,462,000
September	64,087,000	68,613,000	58,949,000
October	57,668,000	68,551,000	63,958,000
November	.....	68,064,000	65,129,000
December	.....	83,440,000	74,127,000
TOTAL	$725,440,000	$903,400,000	$784,953,000

SAVING FIRE LOSSES EVERYWHERE!

THE DUAL FIRE FIGHTER



★ AS A BOOSTER PUMP
It will deliver 175 g.p.m. through 300 ft. of 2½-in. hose to the top of a hill 50 ft. high.

★ FOR FIGHTING FIRE DIRECT
It will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure — capacity sufficient to supply two 1½-in. lines.

★ PRIMES IN 15 TO 30 SECONDS
It weighs only 162 lbs. Equipped with carrying handles.

★ EASILY CARRIED BY TWO MEN

Ask for Bulletin No. 9-FD-11

LOUDON FIRE DEPARTMENT

LOUDON, N. H.

The Gorman-Rupp Company
Mansfield, Ohio

Dear Sirs: Had a rather serious woods fire last spring during which I had eight fire departments and several hundred men on the lines for two days. It was Sunday, May 7th, a class V fire day and a twenty-five-mile wind blowing. A successful stand was made along a narrow road with a pumper or hose line standing by each set of buildings for three-quarters of a mile. In the middle of this was a considerable stretch without buildings except for a school house but with plenty of material for the fire to feed on.

Dropped a suction line from our Gorman-Rupp into what appeared to be a limited amount of swamp water, pumped continually for over three hours during which the twin 1½" lines saved the school house after which they were reversed and carried to assist in saving a set of farm buildings.

During the mop up that followed a dormant finger of the blaze sprang to life and raced out of control until the Gorman-Rupp was carried a quarter mile from any road and again went to work supplying two long 1½" lines greatly shortening the time to control and confining it to a comparatively small area.

We are planning on one or two more portables in the near future — they will be Gorman-Rupps.

Very truly yours,
J. W. ROBINSON
Chief

Complete copies of letters on request

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

Questions and Answers

Layout for Filling Tank

To the Editor:

While reading the September issue of FIRE ENGINEERING, I found an article on Page 756, entitled "N. Y. Fire Fighters Fill Children's Pool," which stated that Engine Co. 76 filled the 85,000 gallon pool on the sixth floor through a 2½-inch line in 85 minutes.

I would like you to check on this and see if the time stated was correct, and if only one 2½-inch line was used. If it was correct, please tell me what size pumper was used.

V. E. D.

Answer: If the pumper were a 1,000-gallon, Class A pumper, and were helped by a hydrant pressure of above 114 pounds, then it could fill the 85,000-gallon water tank in 85 minutes, as stated in the release to the press by the fire department.

Where a single 100-foot length of 2½-inch hose is being employed, the friction loss for a flow of 1,000 gallons per minute would be approximately 202 pounds for the 100 feet.

The back pressure, where the discharge is 60 feet above the pumper outlet, would be 26 pounds approximately. And allowing for a butt (nozzle) pressure of about 36 pounds, the pressure would have to be 264 pounds. As the engine could deliver 1,000 gallons per minute at 150 pounds, the hydrant pressure would have to be at least 114 pounds.

If two lines of hose were used, the friction loss would be only 65.5 pounds, and the engine pressure would be but 127.5 pounds.

Thus without the help of hydrant pressure, a 1,000 gallon per minute Class A pumper could do the job pumping through two parallel lines of 2½-inch hose.

Heat Absorption by Water

To the Editor:

How many B.T.U.'s can one gallon of water absorb, and will this absorption rate vary if:

1. The water is fogged through a conventional fog nozzle using pressures between 100 and 200 pounds?

2. The water is fogged through a high pressure fog gun using pressures between 500 and 800 pounds?

3. The water is treated with a wetting agent?

4. The water is converted into a foam solution thereby increasing its volume approximately 8 or 10 to 1?

W. F. R.

Answer: One B.T.U. will raise the temperature of one pound of water one degree Fahrenheit.

To raise one gallon of water one degree Fahrenheit, would require 8.35 B.T.U.'s.

To convert one gallon of water into steam, where the water is at 212 degrees Fahrenheit, would require 7505 B.T.U.'s.

From the above figures, you can determine how much heat a gallon of water will absorb upon being raised between two known temperatures or upon being vaporized from, and at, 212 degrees.

Whether the water is in the form of fog or in one mass, the amount of heat a gallon of water will absorb is the same, assuming, of course, it is raised in each case from, and to, the same temperatures.

The absorption rate varies as the fineness of the particles of water. A very fine fog will absorb heat, per gallon, at a much faster rate than, for example, a heavy stream.

It is merely a question, in comparing the absorption rate of the various types of fogs, of the size of the fog particle. The finer the particle, the greater the rate of heat absorption.

Treating water with wetting agent does not change the rate of absorption of heat, nor the amount of absorption per gallon of water employed, but the wetting agent portion of the solution may vary. The wetting agent would probably absorb less heat per gallon than plain water, but this would naturally depend upon the type of wetting agent used (and there are over 800 on the market).

If water is converted into foam solution, the rate of absorption of heat by the water would be less, for the foam acts as a heat-insulating agent and prevents the rapid absorption of heat by the moisture content of the foam.

Back Pressure

To the Editor:

When a line from a pumper goes over a building and back to the ground with the nozzle at the same level as the pumper, is there back pressure at the engine (a) when there is no pump pressure, nozzle closed but line full of water, (b) with pump pressure and nozzle closed, or (c) line operating under pump pressure? Would gauges at the highest point on the line and the pump and nozzle ever be different, disregarding friction loss, under the conditions outlined?

W. D. S.

Answer: (a) Where there is no pump pressure and the nozzle is closed but the line is full of water, the back pressure at the engine as well as at the nozzle will be the total head represented by the height of the building. This is based on the assumption that the hose does not collapse but that it is fully charged.

CIRCLE-D PORTABLES

RUGGED-LIGHT WEIGHT-WEATHER PROOF

CIRCLE-D PORTABLE FLOOD or SPOT LIGHTS. Designed and built for the tough assignments of any emergency. CIRCLE-D LIGHTS are preferred by emergency crews for their compact size that makes them easy to handle and carry, as well as store in emergency trucks.

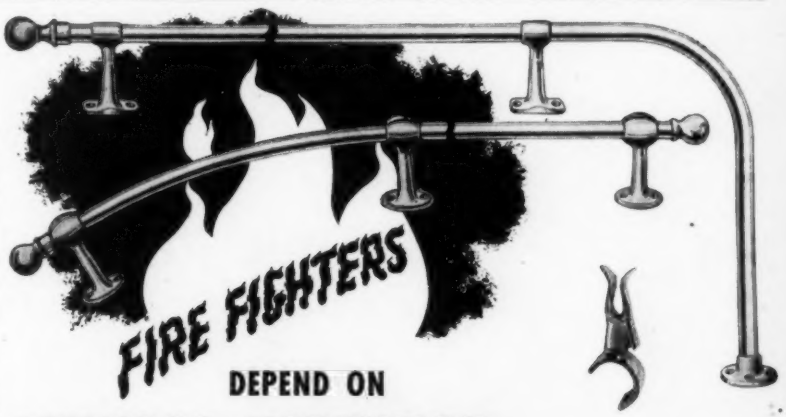
The CIRCLE-D PORTABLE is completely weatherproofed with the powerful SEALED-BEAM LAMP being mounted in a durable aluminum alloy housing that resists abuse, yet is light in weight for easy carrying and handling. CIRCLE-D PORTABLES are equipped with exclusive CIRCLE-D SEALED-BEAM SPOT or FLOOD LAMPS. CIRCLE-D SEALED-BEAM LAMPS will not shatter or break under cold water shock. CIRCLE-D SEALED-BEAMS are available in 200, 300, 500, 750 and 1,000 Watt capacities.

FOR THE FINEST IN PORTABLE LIGHTING INSIST ON CIRCLE-D

SEE YOUR FIRE EQUIPMENT DISTRIBUTOR OR WRITE →

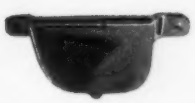
NATALE MACHINE & TOOL CO.

339 HIGHWAY #17 • CARLSTADT, NEW JERSEY



DEPEND ON

ATTWOOD HARDWARE



Fire fighting is an exacting occupation. One mistake may be the last.

Likewise, the manufacture of fire fighting trucks is a very exacting business. Every piece of equipment must be dependable to eliminate any chance of mechanical failure.

For many years Attwood has supplied over 90% of the fire equipment manufacturers with standard and special hardware and fittings.

Contact Attwood regarding the manufacture of equipment to your specifications.

ATTWOOD

BRASS WORKS

GRAND RAPIDS 4, MICHIGAN

(b) With the line under pump pressure, but the nozzle closed, the back pressure at both the engine and the nozzle will be equal to the height of the building in feet multiplied by 0.434.

(c) If the line is under pump pressure and water is flowing, the back pressure will, at both the engine and the nozzle, be the same as in (b).

Oxygen Storage Hazards

To the Editor:

We have a new hospital under construction in our town and the officials at the hospital want to use an oxygen system that is to be refilled by liquid oxygen tank truck. The truck converts the liquid to gas at the storage tanks on the hospital grounds.

From the information I can find this sounds like a very dangerous and hazardous system.

Do you have any information or records of accidents to this type of system?

R. D. G.

Answer: If properly installed, the liquefied oxygen system is not considered to possess severe hazard.

Oxygen gas is not combustible, but it is a supporter of combustion. In an atmosphere of oxygen, combustion is much more intense than in an atmosphere of air; also ignition takes place more readily. And, oils may ignite explosively at ordinary temperatures in the presence of compressed oxygen. The greatest danger would be the possibility of rupture of cylinders containing liquefied oxygen. However, if these are made properly, and given periodic, careful inspection, the danger should be minor.

A search of our files locates no instances of explosions of liquefied oxygen apparatus which resulted from the presence of oxygen alone. However, when oxygen cylinders are involved by fire, and the safety provisions do not function, then explosive results may be expected.

Traffic Summonses by Firemen

To the Editor:

The problem of traffic in relation to the fire service is becoming increasingly difficult. I am interested in one phase of this problem and would very much appreciate your help in learning how some of the larger cities handle this phase.

I have in mind that part of the problem where it is necessary for a member of a fire department to serve a summons for a violation of law affecting apparatus response, or return, the blocking of hydrants by a vehicle, illegal driving over fire hose, etc.

What I am particularly interested in is how the various fire departments handle the summons procedure from the time of issuance until final disposition. How much paper work is involved? How much time does it take to issue the summons? Reports involved? Does the fire department send a man to court in each case?

In addition to the above, I wonder how these cities handle the problem of alleviating traffic conditions with respect to expediting apparatus response and return time.

S. C.

Answer: We believe it safe to say that the majority of cities of any size vest their fire departments with authority to issue summons for traffic violations. Not all of them permit firemen to issue summons for blocking hydrants or driving over fire hose, but some do.

Usually only the officer in charge of a piece of apparatus can issue such summons on the ground. It is customary to carry books of summons on the working apparatus, but there has in the past been some trouble over just who should serve the summons in time of trouble (it often happens that a fireman is acting as an officer and he may not have authority to issue the ticket).

FIRE ENGINEERING has continually advocated the policy of permitting fire officers to issue summons, not only for traffic violations, but for violations of the fire protection code.

One trouble is that where firemen are permitted to issue tickets for violations, it usually causes them extra trouble, time lost, expense, and may "get them in bad" with the political leaders. They don't relish having to appear in court and use up all or most of their day off to prosecute a summons. The "machinery" of handling these violations in court, requiring the presense of the arresting officer, and so on, is so complicated that firemen would almost rather permit a violator to go free than to have to go through all the fuss and bother of ap-

No lubrication necessary
Carbon bearings (oilless)
2 Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)
Bronze spur gears (Oberdorfer alloy No. 16438)

the new
OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

pearing against him. The bigger the department, the more paper work that must be done in handling and processing any summons. It means telephone calls, personal appearances before the "higher-up" of the department, and the filling out of reports, which no fireman relishes.

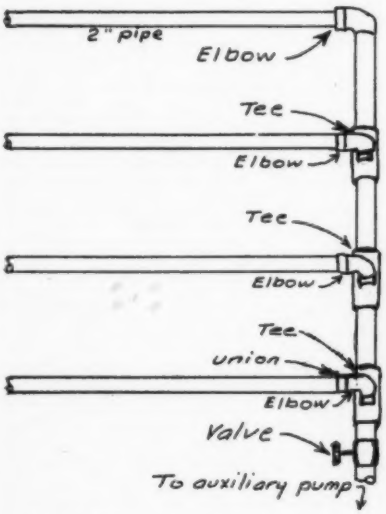
With traffic problems increasing as they are, every possible thing should be done to reduce the delay in the response of fire apparatus, and to punish those motorists or others who willingly or unwillingly interfere with the fire departments. We do not advocate making police officers out of firemen, but we believe that they can be vested with powers to hand out summons or otherwise bring to book the violators.

With Our Readers

Connecting Up Tanker

To the Editor:

We have a tanker of the design that T.A.C. inquired about in your October, 1954, issue. Our mechanic booked ours up in the way shown in the sketch herewith.



There is a union on each of the four pipes.

The four tanks all drain to the heads at the same time, but each tank must be vented. To do this, we leave the fill caps loose. Thus no vacuum is created. The layout works wonderfully.

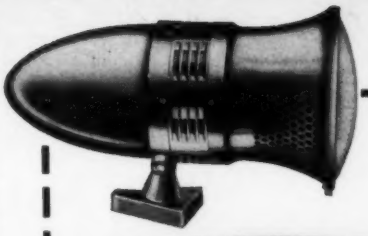
Very truly yours,
H. W. Stutz, Chief
Pitsburg, Ohio, Fire Department

Mask Maintenance

To the Editor:

In reading the article "Insecticides Warehouse Fire Fells Pomona, Calif., Fireman," I note a statement which indicates a most common, but most dangerous line of thinking, as follows: "When Los Angeles Fire Department fire prevention bureau experts interviewed one of these four, he was still coughing slightly, felt extremely nervous," etc. . . . "This, a four days after the fire! And he had been wearing a (filter-type-Ed.) gas mask too."

The use of cartridge-type gas masks



MODEL 20 SIRENLITE for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

- HANDSOME
- RUGGED
- RELIABLE

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL M GENERAL FIRE ALARM SIREN for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.

Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

Revolutionary New Principle Increases Fire-Fighting Efficiency!

●The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.

THE HEART OF THE SUPER VACUUM

●The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

Write for Additional Information or Contact Your Local Fire Equipment Dealer

MANUFACTURED EXCLUSIVELY BY
Super Vacuum MANUFACTURING CO.
319 East 17th Avenue • Denver 3, Colorado

as protection against the vapors of the organic phosphate family of insecticides has certain very definite limitations. They should be used *only* if they have been properly fitted to the individual, properly maintained, and adequately tested prior to entering the toxic vapor area. Even then, experience shows that a percentage of the masks will leak.

Since leakage cannot be detected by the users, slight leakage may be fatal without having been detected by the wearer.

Several thousand canister type masks when properly selected and fitted have produced the following facts:

1. A few individuals can never be properly fitted due to face contours even when expert fitters are involved.
2. About 5% of all new masks leak when tested in the gas chamber due to lint, dust, etc., under the exhalator valve.
3. Canisters must be properly checked, preferably by weight increase, and discarded before they become spent.
4. The human error alone will insure a percentage of casualties due to improper adjustment of the mask.

Because of these facts, it would appear to be most practical to use a type of mask which will hold a positive pressure inside the face-piece, so that the tendency for leakage will be outward.

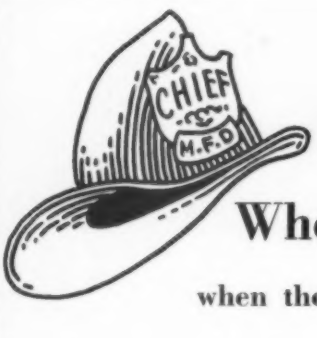
If canister masks must be used, the following precautions should be taken:

1. Issue masks to individuals for their individual fitting, use, care and testing.
2. Be certain that each man has been properly trained in the way to adjust his mask—sometimes a most difficult job.
3. Train each man in the proper maintenance of his mask with special emphasis on the seal of the exhalator valve.
4. MOST IMPORTANT: Periodically test each man and mask in a test chamber using tear gas. Any isolated room will do, but this step must never be overlooked. Try it and learn how often your mask will leak when you become just a little bit careless.

The simple statement "he had been wearing a mask" implies that the mask will not protect against that type of vapor. This is not true, but you can be assured that either he was not wearing his mask properly, or that the mask had not been properly maintained.

Perhaps now would be the time for all companies to look into their training on the use of masks in the light of the growing prevalence of organic phosphate type material throughout the country.

BRUCE M. BAIRD,
Lakewood, Colo.



Chief—

Where are you

when the smoke is thick and men drop like flies?

Where . . .

is that resuscitator the department should have?

Leading fire departments throughout the country have learned from experience that

THE STEPHENSON RESUSCITATOR

is the most efficient, simplest to operate and most beneficial for the patient.

Write today for literature or a demonstration.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Obituaries

Ex-Chief Peter Herd Dead

Funeral services for Peter Herd, retired Fire Chief of Toronto, Ont., Fire Department were held from the funeral Chapel of A. W. Miles late in October. Chief Joe Waterman, Deputy Chief Len Leigh, over 100 men and officers of the department and a large gathering of civic officials and friends attended the services.

Chief Hurd had had a heart seizure, and then a stroke, shortly after he was involved in an accident when getting out of his car. He retired in 1950, succeeding the late Chief George Sinclair as Chief. Chief Herd was on the department for 48 years. He was born in Auchtermuchty, Scotland, and came to Canada in 1903. He was also one of the organizers of the Box 12 association, a group of business men who respond to 2nd and 3rd alarms and serve food and coffee to the fire fighters.

Chief Herd rose from rank to rank, becoming Chief in 1947, and under his direction the department grew in personel, equipment and ability. The Chief was a member of Bedford Lodge, F. & A. M. He is survived by his widow.

—JOHN KARL LEE

York Township to Revamp Civil Defense System

York Township, Ontario, will revamp its civil defense program, as the council decided at a previous council meeting. Five air-raid sirens will be installed at a cost of $100 each. These sirens will be supplied by the Dominion Government and the township will pay the cost of installation. Reeve Fred Hall announced that the Dominion Government has also agreed to pay 25 per cent of civil defense administration costs, the township will now go ahead with plans to set up a bureau where volunteers for civil defense work can register.

—JOHN KARL LEE

Short Cut to Figuring Engine Pressures on Ladder Layouts

From James C. Rogers, Supervising Instructor, Nassau County (N. Y.) Vocational Training and Extension Board, comes a suggestion for figuring nozzle reaction. He says, by way of preface, "I have just received your new book entitled: 'Fire Service Ladders.' I read Chapter XV, on the use of ladder pipes, and nozzle reaction, with a great deal of interest, for this school is now teaching this subject to pump operators.

"This chapter has a great deal of informative data in it, yet I feel much has been left unsaid as far as the practical application of this information in producing effective streams at ladder pipe nozzles is concerned.

"For instance: I can never get pump operators to remember the figures .434 lbs. per foot of elevation, for calculating back pressure. Yet if this figure is changed to the approximation of ½ lb. per foot, they will remember it. The error in using this latter figure is very small.

"I am submitting to you a set of facts and figures I have used for some years in teaching pump operators how to quickly calculate engine pressure necessary to produce an effective stream at the ladder pipe nozzle. I hope you can make use of these calculations."

Tip Sizes: 1¼, 1⅜; 1⅝; 1¾ in. and high capacity fog nozzles. The largest size tip that is considered safe to use is 1¾ in.

Tip pressures range from 60-100 lbs. A mean pressure of 80 lbs. produces an effective stream, for which the friction loss in 2½ in. hose can readily be calculated.

High capacity fog nozzles require a tip pressure of 100 lbs. to produce effective fog patterns.

All these large tips should be supplied from the pump to the siamese fitting with at least two 2½ in. hose lines. Some siamese fittings in use for aerial ladders have three inlets, in which case three feed lines of 2½ in. hose can be used.

If it is desired to use three feed lines to a siamese having but two inlets, a 'Y' gate can be used on one of the siamese inlets.

The size of hose running up the aerial ladder, siamese to pipe, should be 3 in. with 2½ in. couplings. The use of 2½ in. hose for the ladder is not considered good practice, as the friction loss in 2½ in. hose is so high for these large flows of water that the stream from the nozzle rarely has a good operating pressure, thus the reach of the stream is greatly reduced.

An exception to the use of 3 in. hose is found on the so-called Junior aerials of 55 ft. length. On this aerial, the largest tip that can safely be used is 1¼ in. The ladder pipe must be worked from the end of the bed ladder and cannot safely be used on any of the fly sections.

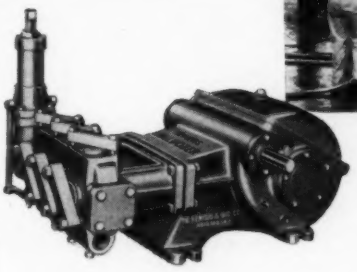
Friction Loss Calculations

Rough method of obtaining friction loss in 2½ in. feed lines:

Calculations for an aerial ladder pipe are the same as for a deluge set, except as follows:

Omit the 20 lbs. loss in the deluge set. Figure must be added to cover loss in

If it's fog you need...



Some fires can be brought under control more quickly with a cooling fog spray than with a high volume stream.

Many manufacturers of today's fire-fighting equipment install a Myers Bulldozer Fire Pump to provide the dependable high pressure required to produce effective fog.

Write today for an illustrated catalog of the complete line of Myers Bulldozer Fire Pumps.

MYERS FIRE PUMPS

THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO

Myers

COMBINATION UNBREAKABLE EXPANDER

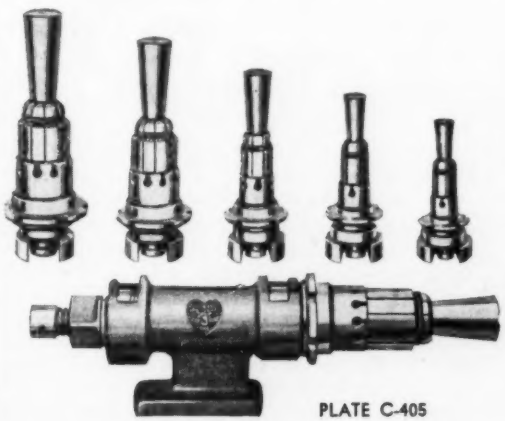


PLATE C-405

GET THIS . . .

One expander body for all sizes of segments from ¾" to 3". Convenient — space saver. Unbreakable segments.

A Quick Inquiry
A Quick Reply

ELKHART BRASS MFG. CO., INC.
ELKHART INDIANA

3-in. hose; loss in siamese fitting; back pressure for elevation.

The rough friction loss calculations for feed lines are shown below:

Nozzle Press.	Nozzle Size	Rough G.P.M.
80 lb.	1¼ in.	400
80	1⅜	500
80	1½	600
80	1⅝	700
80	1¾	800

The above losses are given in terms of 100 ft. of siamesed line, pump to siamese, and are taken from the tables furnished by the International Association of Fire Chiefs.

For the tips normally found in use on aerial ladder pipes, namely 1¼, 1½, 1¾-in., with tip pressure of 80 lbs., the approximate gallons flow starts at 400 G.P.M. and increases 200 G.P.M. for every increase of tip size of ¼ in.

The pump size to supply these large tips should be carefully considered. The rough method of obtaining the amount that must be added to friction loss calculations to compensate for loss in 3-in. hose, for back pressure, is as follows:

Basic Loss	Siamesed 2-2½ in. Lines	Siamesed 3-2½ in. Lines
25	12	6
38	19	9
50	25	12
58	29	15
75	38	19

Using a 1½-in. nozzle on an aerial ladder pipe; nozzle pressure 80 lbs. at a height of 70 ft. above ground, with two 50 ft. lengths of 3-in. hose, 2½-in. couplings, placed on ladder:

Friction loss for 100 ft. of 3 in. hose	29.9 P.S.I.
Siamese loss	5.0
Back pressure due to height (½ lb. per ft. of height)	35.0
Total	69.9 P.S.I.

An approximate figure of 1 lb. per sq. ft. can be used for all elevations up to 100 ft. This figure roughly covers all nozzle sizes, whether they be fed with one or two lengths of 3-in. hose running up the ladder.

Thus for a pump operator to roughly calculate the amount of pressure necessary to deliver water from the siamese connection to the nozzle of an aerial ladder pipe, at 80 lbs. nozzle pressure, all he has to do is to gauge by eye, the distance from ground level to the nozzle, as a vertical distance and use one lb. for each such foot of elevation.

Now let us consider the use of high capacity Rockwood fog nozzles, type B, 500 G.P.M., on ladder pipes.

Supply this nozzle with two or more 2½-in. lines siamesed at base of ladder into 3-in hose, running up the ladder.

To calculate the loss in feeder lines:

Nozzle Press.	G.P.M.	2½ in. Single	2½ in. 2 Lines Siamesed	2½ in. 3 Lines Siamesed
100	500	55.0	15.2	7.1

Losses are given in terms of 100 ft. of siamesed line from pump to siamese.

Now let us consider some troubles that have developed in the use of ladder pipes on certain makes of aerial ladders:

When the pipe is working, it has been found impossible to raise the ladder hydraulically from its original position. This is caused by the by-pass valve in the hydraulic system being set at such a figure that the ladder cannot be lifted, when the weight of hose and water overcomes the setting of this valve.

The remedy: Some form of relief valve placed in the siamese fitting to relieve the back pressure; or a quick-acting drain valve; or reset the by-pass valve on the ladder to a higher figure (few manufacturers like to do this as the safety factor is removed when the ladder is driven into a building). Still another remedy would be to break the hose at the siamese fitting, but this consumes time.

The siamese fitting should have some means of shutting off the supply of water to the aerial ladder pipe. Accidents have happened when a man is at the ladder pipe (elevated) and the water to this nozzle could not be rapidly shut down.

Friction Loss Calculations

Rough friction loss calculations; 3-in. hose; siamese loss; back pressure, for ladder pipes.

1¼ in. Nozzle; Nozzle Pressure 80 P.S.I.; Approx. Flow 400 G.P.M.

1- 50 ft. length 3-in. hose,
2½-in. couplings

Approx. friction loss 7.1 P.S.I.

Siamese loss: 5 P.S.I.

Back Pressure: Approx. ½ lb. per ft. of elevation

Nozzle Ht. Above Ground (h)	Amount to be Added to Pump Press. (Approx.)
25 ft.	24.6
35 ft.	29.6
45 ft.	34.6

TRULY AMAZING!

FROM HERE

NO WIRING!

TO HERE

HERE'S HOW IT'S DONE

in a standard size call box we have a battery operated radio transmitter. When the box is pulled it sends a coded radio alarm to a radio receiving set in fire or police headquarters or anywhere that you elect to have calls received. Each box has its own code number identifying its location. There is absolutely NO WIRING between boxes or receiving set. Boxes are operated on battery current. Batteries used are the best procurable with a life of 20 years. There is absolutely nothing to go out of order. Occasional checks are routine. Systems can be added to present alarm setups—boxes and receiver being all you need. Every town or industrial plant can install a SAFER system at a fraction of the cost of wired systems. Prices and further data upon request.

SAFER ELECTRONIC FIRE ALARM INC.
CALL BOX DIVISION
838 RIVER ROAD
EDGEWATER, N. J.

2- 50 ft. lengths 3-in hose,
2½-in. couplings
Approximate friction loss: 7.1 P.S.I.

50 ft.	44.1
60 ft.	49.1
70 ft.	54.1
80 ft.	59.1
90 ft.	64.1
100 ft.	64.1

The rough method is to add 1 lb. per ft. of height nozzle is above ground. The nozzle reaction, or push-back on the ladder, is 187 lbs.

1½-in. Nozzle; Nozzle Pressure 80 P.S.I.; Approx. Flow 600 G.P.M.

1- 50 ft. length 3-in. hose,
2½-in. couplings
Approx. friction loss: 14.9 P.S.I.
Siamese loss: 5 P.S.I.
Back Pressure, approx. ½ lb. per ft. of elevation.

Nozzle Ht. Above Ground (h)	Amount to be Added to Pump Press. (Approx.)
25 ft.	32.4
35 ft.	37.4
45 ft.	42.4

2- 50 ft. lengths 3-in. hose,
2½-in. couplings
Approx. Friction Loss: 29.9 P.S.I.

50 ft.	59.9
60 ft.	64.9
70 ft.	69.9
80 ft.	74.9

The rough method is to add 1 lb. per ft. in height the nozzle is above ground. Nozzle reaction, or push-back on the ladder, is 270 lbs.

1¾-in. Nozzle; Nozzle Pressure 80 P.S.I.; Approx. Flow 800 G.P.M.

1- 50 ft. length 3-in. hose,
2½-in. couplings
Approx. friction loss: 25.2 P.S.I.
Siamese loss: 5 P.S.I.
Back Pressure: Approx. ½ lb. per ft. of elevation.

Nozzle Ht. Above Ground (h)	Amount to be Added to Pump Press. (Approx.)
25 ft.	41.0
35 ft.	45.3
45 ft.	50.6

2- 50 ft. lengths 3-in. hose,
2½-in. couplings
Approx. friction loss: 50.5 P.S.I.

50 ft.	80.5
60 ft.	85.5
70 ft.	90.5
80 ft.	95.5

A slightly higher amount than the 1 lb. per ft. in height the nozzle is above ground should be added. Nozzle reaction, or push-back, on the ladder is 367 lbs.

Telephone

(*Continued from page* 1139)

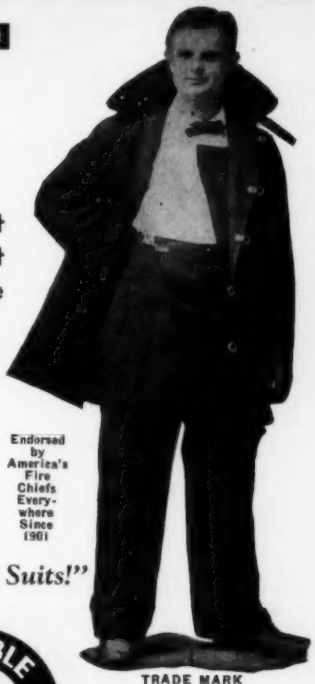
standable form of message, no action is taken other than to dispatch a police car to the location to report back as to what is going on.

The "red fire box" does as well or better than this, as when used to report a fire it will accurately indicate its location at fire headquarters without further ado. Apparatus and personnel can then be dispatched to the location in sufficient quantity based on a predetermined assessment of the values prevailing and fire potential in the district.

The "Digest" article goes on to explain that in Miami, since the advent of the new telephone emergency call system, there has been a sensible reduction in the number of false alarms received as compared to when the old fire alarm telegraph boxes were in use. Be this

Wishing you a Merry Christmas

Real protection, with comfort plus! That's what a Globe Suit has meant to firemen for more than half a century.



Endorsed by America's Fire Chiefs Everywhere Since 1901

"The Suit that Suits!"

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GLOBE DURABLE FIREMEN'S SUITS

GLOBE MANUFACTURING CO. PITTSFIELD, N. H.

Don't be fooled!..

... there's ONLY ONE Fire Fighting Penetrant UNOX®

- There are many wetting agents—but UNOX is the only penetrant scientifically designed for fire fighting. It is approved by Underwriters' Laboratories for fighting both Class "A" and Class "B" fires.

UNOX alone, makes wet water that is unsurpassed

- for fast, sure fire extinguishing
- for foam fire fighting and fluid insulation
- for 3-dimensional—cooling, spreading, penetration—fire fighting.

- *Be sure you get the genuine. Don't ask for a wetting agent—Specify* UNOX.

THE UNOX COMPANY
1630 ROBERTS ST. • HOUSTON 3, TEXAS
A Division of McFARLAND MANUFACTURING CORPORATION

as it may, it is not necessarily significant that the new system is solely responsible for the reduction in worthless calls. It has already been shown that the mere lifting of the receiver at one of the special telephone stations is sufficient to transmit a signal to headquarters. It follows therefore that if any person is bent on giving a worthless call to the fire department, in mischief or with malicious intent, he can do so just as easily from a street telephone station as from a "red fire box," with no more risk of detection.

The "Digest" article points out what is claimed to be a glaring lack of reliability in the operation of the "red fire box" system. This is to the effect that in nearly all cities there are from a dozen to 35 "red fire boxes" on a single circuit and that when one box goes out of order, or a wire breaks, all boxes on that circuit are out of service. This statement discloses complete ignorance concerning the elementary principles of a modern fire alarm telegraph system.

The modern fire alarm telegraph system can, with complete reliability, operate circuits with 30 or more boxes, depending on the type of circuit construction. The circuits are under constant and complete electrical supervision with any trouble condition immediately and automatically indicated at headquarters. Troubles such as broken or grounded wires do not adversely affect the function of any box, the trouble being automatically compensated for by emergency operation features inherent in the design of the system. These features remain in effect until permanent measures are taken to clear the trouble. With modern fire alarm telegraph equipment, in connection with underground cable circuits installed in accordance with the standards laid down, it is difficult to visualize any available alternative with equal reliability.

As far as is known, there is no authoritative information available which would indicate that the telephone emergency call system possesses the inherent reliability of the modern fire alarm telegraph system. The article accomplishes little or nothing in its attempt to prove otherwise.

The "Digest" article in expounding its views concerning the business ethics of a certain fire alarm equipment manufacturing concern, makes a statement involving the principles of the International Municipal Signals Association and the International Association of Fire Chiefs. Such a charge must be considered in the light of the fact that an organization such as the I.A.F.C. is composed of men pledged in their duty to safeguard the nation against loss of life and property by fire, and whether it is consonant with their record of service to believe that they would in any way permit exploitation by any concern producing equipment so vital to the fire services, particularly if the equipment is, as claimed, obsolete and unreliable.

Last, but no means the least consideration, there is the comparison of the cost of an emergency call telephone system on a yearly rental basis, with the capital expenditure involved in the installation of a municipally owned fire alarm telegraph of modern type, assuming both systems provide comparable service.

The "Digest" article appears to have avoided this issue, an omission that may be significant.

A basis for such comparison in one city has been established as the result of a survey made by a well known consulting engineer on behalf of the City of New Orleans, Louisiana.

Conclusions

The essential conclusions of the report covering this survey can be summarized as follows:

That the telephone company's proposal is not in the best interests of the city when it is considered that an annual expenditure of $753,458.50 would be required against $226,179 for a city-owned, adequate fire alarm system on the assumption that the total cost of the system would be amortized at 3 per cent interest over a fifteen-year term. Fifteen years was selected as the term because the telephone company's proposal was based on a fifteen-year contract.

At the end of fifteen years the city would have paid the telephone company more than $11,000,000 for a 4,000-box system and would own no portion of the system other than the headquarters building which had been built by the city as a requirement of the contract with the company.

In the present era of rapid development in practically all fields it is not unlikely that some new and much advanced type of system will be developed for public use in summoning aid from fire, police and other emergency services. It is therefore essential that an open mind be maintained with respect to the problem, at this time.

NEW HANDLIGHT

NICKEL CADMIUM BATTERY OUT-LASTS 2000 DRY CELLS

15 to 20 year service

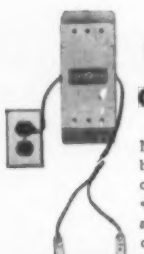
"Revolutionary" is the only word to describe this new Dual-Lite Nickle Cadmium Battery Handlight . . . a one time purchase . . . a permanent piece of fire fighting equipment.

CHECK ***these advantages against the dry-cells you are now using—***

- ☐ **8000 hours**—15 to 20 years or over 1000 charges and discharges with approximately 8 hours lighting on each discharge.
- ☐ **Equal to 2000 dry-cells**—(8000 hours of lighting). At $3.50 each, that's $7000. Compare this with Dual-Lite's single cost!
- ☐ **Holds 80% Charge for Year**—A fully charged Nickel Cadmium battery delivers a full 80% of its capacity after one year of non-use, and 60-70% at end of 2 years. Add water only every 1 or 2 years, in some cases longer.
- ☐ **Use Standard Charger**—No special equipment necessary.
- ☐ **Can't Freeze**—Leave in service trucks, etc. in coldest weather without damage.
- ☐ **Works Upside-down** — Watertight battery can't spill.

Weight less than 7½ V. dry-cell. Case made of steel with cast aluminum handle and rubber grip. Powerful beam. **$49.98** F.O.B. BPT.

Send for Literature and Quantity Prices



BATTERY CHARGERS

Nickle Cadmium batteries may be charged with any standard 2 or 3 amp automobile charger.

Charger BC-1 2 amp—8 hour, single battery— **$12.98** F.O.B. BPT.

Charger BC-16 2 amp—8 hour, 1 to 16 batteries..... **$149.50** F.O.B. BPT.

Also above models with 3 amp delivery in 5 hours.

DUAL LITE

DUAL LITE COMPANY, Inc.

195 Front Street Bridgeport, Conn.

News of the Manufacturers

(*Continued from page* 1148)

nect into the circuit either cab speaker, marine speaker or both. Or, if desired for special installations as in fire houses, a multiple speaker system utilizing up to five inverted cone-type speakers can be had.

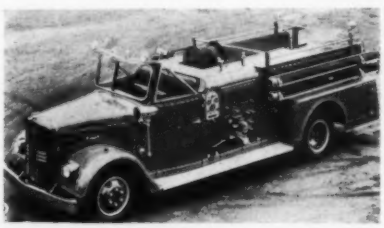
The system is adaptable to public address operation by the use of "Handie-Talkie" radiophones or the small and lightweight "Handie-Micro-Talkie" transmitters operating through the radio receiver and booster amplifier. They can be used remotely from the cab to direct fire fighting activities, even from inside a burning building. The use of these portable transmitters enables the user to give instructions over all trucks equipped with two-way radio, or, by using a number of them, firemen can talk to each other and listen to the loudspeakers.

The radio is designed for operation on one frequency (same as base station) or on two frequencies (the second for the portable radiophone) as may be desired.

Complete information on the new system can be obtained by writing to Motorola Communications and Electronics, Inc., Technical Information Center, 4501 W. Augusta Boulevard, Chicago 51, Illinois.

Ward LaFrance Introduces "Fire Ball Special"

A 500 G.P.M. Fire Ball Special, pumping engine, designed especially for smaller communities and rural areas, has just been introduced by Ward LaFrance



New 500 G.P.M. Ward LaFrance "Fire Ball Special."

Truck Corporation, Elmira, N. Y. The unit is powered by the new Chrysler Fire Power 183 H.P. engine, and is built to provide dependable service at low initial cost.

A. J. Gerard, Adv. Mgr. of John Bean Div.

Arthur J. Gerard has been named to the post of Advertising Manager at John Bean Division, Food Machinery and Chemical Corporation, Lansing, Michigan. He succeeds Eldon Robbins, who becomes Advertising Manager of Evinrude Motors, Milwaukee, Wisconsin.

Mr. Gerard joined the John Bean organization in 1953 as Assistant Advertising Manager and has worked on many phases of catalog, direct mail and space advertising for the firm's farm equipment, garden sprayer, industrial pump, fire fighter and automotive divisions.

He is a graduate of Michigan State

For VALUE . . .

Specify HALE

Why do users of Hale Fire Pumps specify "Hale Pump" when they buy new apparatus?

Because these men have learned through practical experience HALE VALUE in terms of:

• Dependability • Flexible Performance • Efficiency

For 39 years Hale-equipped Fire Pumpers have upheld a high standard of dependability . . . a dependability that has won the respect of users all over the world. Hale Fire Pumps are sold only through Manufacturers of quality apparatus.

FIRE PUMPS HALE CONSHOHOCKEN, PA.

Write today for NEW FOLDERS on Hale Fire Pumps . . . built in all standard capacities.

HALE
FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Merry Christmas and Happy New Year!

New! AUDIO HAILER
WORLD'S MOST POWERFUL All-in-One POWER MEGAPHONE

AMPLIFY YOUR VOICE 1000 TIMES

NOW IT'S AUDIO HAILER for long-range hailing with the POWER and CLARITY you need to be HEARD and UNDERSTOOD above noise and wind at great distances. Rugged, weatherproof, quality construction by AUDIO—originators of the Power Megaphone, suppliers to the U. S. Navy. *FREE literature.*

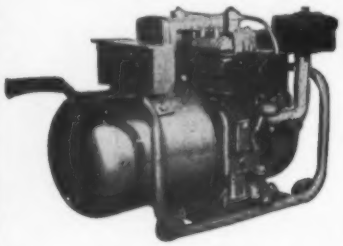
- ONE *Self-contained* UNIT...NO CABLES! LIGHTWEIGHT...ONE-HAND OPERATION.
- 16 TIMES MORE POWERFUL THAN ANY OTHER PORTABLE POWER MEGAPHONE!
- EXCLUSIVE! VACUUM-TUBE AMPLIFICATION.
- LONG BATTERY LIFE: OVER 5,000 TEN-SECOND MESSAGES!

DEALER INQUIRIES INVITED

AUDIO HAILER

AUDIO EQUIPMENT CO., INC.—GREAT NECK, N. Y.

NEW . . . 2000 WATT FIRE DEPARTMENT ELECTRIC PLANT



Designed for operating floodlights, radio, pumps or blowers. Two men can carry it—and one man can wheel it around! 2000 watt 115 volt, A.C. Takes little space on the truck . . . only 22 x 18 x 20 inches high. Write for information on this and other Electric Plants built by "U.S." for fire department use.

UNITED STATES MOTORS CORP.
420 Nebraska St.
Oshkosh, Wisconsin

BODY-GUARD BUNKER SUITS

FOR COMFORT & PROTECTION

WE ARE DISTRIBUTORS FOR

SIREN BOOTS

We have been supplying **FIREMEN'S CLOTHING** for over 25 years.

Any fireman can have a catalog by writing—

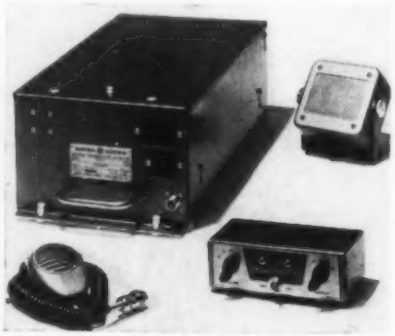
BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - MISSOURI

College and had done public relations work for the Michigan State Police Department prior to coming to John Bean.

G.E. Announces New Mobile Unit

General Electric Company has announced the addition of a completely new 25-watt mobile combination transmitter-receiver to its line of two-way radio communication equipment.

The new two-way radio unit, which operates in the 152-174 megacycle band, was designed to work from either a 6 or a 12-volt battery, interchangeably. Conversion from either 6 to 12-volt operation or 12 to 6-volt may be easily accomplished in the field.



New 25-watt mobile combination transmitter-receiver unit announced by G.E.

The new radios are expected to be most useful for fire departments, police, taxicabs, power utilities and industrial concerns. The possibility that crowded radio channels may eventually cause a change in operating channel width has also been taken into consideration. Should this happen, the new unit is easily convertible to split channel operation.

The new two-way radio combination replaces two older age models. Although the two models replaced were both 10-watt units, the new 25-watt mobile combination is identical in physical size and will allow the use of the same base (or mounting plate). If desired, the new mobile radio may be adjusted for only 10-watts output to conform with the user's needs.

Because of its compact size, the new 25-watt two-way unit may be mounted on the dashboard by the simple addition of direct controls on the unit itself.

Circul-Air Introduces Hose Washer

The Circul-Air Corporation, originators of electric hose dryers widely used throughout the fire service, recently announced a new fire hose washer.

First shown the fire service at the recent I.A.F.C. Conference in Houston, the device is actually a washer and drainer combined. Now, the maker claims, its users will no longer have to "walk the hose," or hang it, or drain it on racks; the squeegee action of the brushes and inclined draining trough drains the rubber linings thoroughly.

In the model shown ("Circul-Air A-Z Washer-Drainer) the hose is passed through a constant flow of fresh, clean water from roto-jet spray nozzles while being scrubbed by four nylon brushes

McINTIRE GATE VALVES

Fig. 164AN
4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

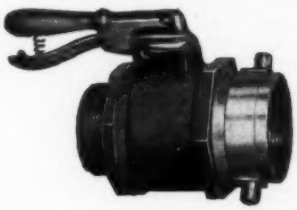
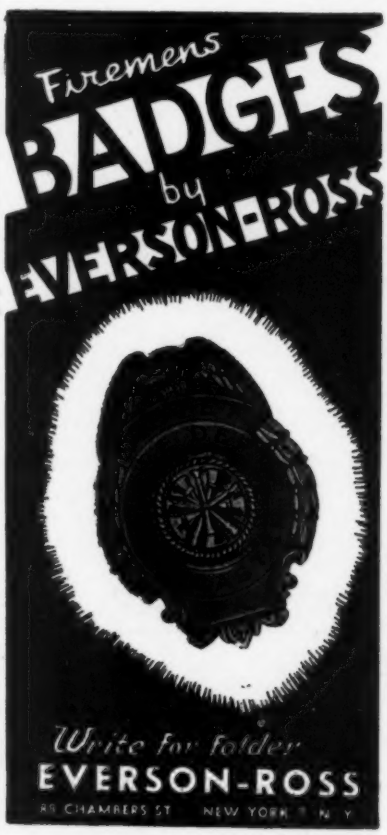


Fig. 163
Made either Right Hand or Left Hand 2½" male x female, gate valve.

F. N. McINTIRE BRASS WORKS
377 PUTNAM AVE., CAMBRIDGE 39, MASS.
1837 - - - - - - - - - 1954

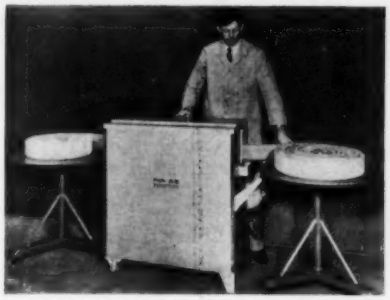


NEW DUPONT
FIRE RETARDANT "X-12"
is our standard application in
FLAMEPROOFING TEXTILES
The facilities of our technical staff and laboratory are available and samples will be promptly Flameproofed without charge.
Largest Specialty FLAMEPROOFERS in America
Descriptive literature "E" on request
PERMA DRY CO. INC.

always SPECIFY

the world's best
LIFE NET
in use in thousands of departments—time tried and proven—as the best and fastest means of rescue. All drop-forged hinges, with spring recoil mechanism like that on modern artillery. Specify ATLAS LIFE NETS on all new apparatus!
ATLAS SAFETY EQUIPMENT CO., INC.
27 WARREN ST., NEW YORK 7, N. Y.

revolving at high speed. It scrubs edges as well as the "flats." Brushes are waterproof, firm in texture, yet it is claimed have no abrasive effect on hose jackets.



New Circul-Air hose washer.

Although designed primarily to wash with clean water (hose manufacturers recommend avoiding use of detergents as much as possible), sections spotted with oil or grease or otherwise soiled can be sprayed with a mild solution of washing compounds by means of an ingenious arrangement of by-pass valve, which introduces the detergent through an injector from a tank in the base of the machine. It is then sprayed on the soiled areas before the hose reaches the first set of brushes, loosening the grime, which is flushed away by the rinsing nozzles.

The manufacturer claims the machine is the easiest, yet fastest present method for safely washing hose. The machine is sturdily built of rust-resistant steel with stainless steel trough and fitted with casters for movability, and skids to hold it in place when in use. Comes finished in either aluminum color to match the Circul-Air dryer, or in white. Brushes are driven by a ¼-H.P. motor.

The turn-tables shown in the picture are not integral parts of the washer but are used for loading apparatus and hose dryers. These may be purchased individually.

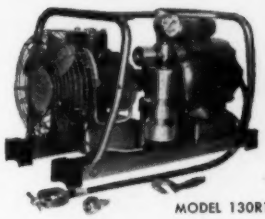
Complete descriptive data may be had by writing Circul-Air Corporation, 575 E. Milwaukee Ave., Detroit 2, Mich.

"Telehold" Facilitates Phone Communications

Fire officers and fire alarm dispatchers and operators who must use the telephone during emergencies have always been plagued by the difficulty of holding the telephone receiver to the ear with one hand and attempting to make notes with the other.

Telephone holder for busy hands.

A number of different attachments have been devised to permit free use of the hands while using the telephone

NEW ECONOMY and CONVENIENCE
CHARGE YOUR OWN SELF-CONTAINED AIR BREATHING EQUIPMENT

MODEL 130R1401
Cornelius
Portable, High Pressure Air Compressors
Charge your air bottles or storage cylinders with pure, cool air at a cost of only pennies per bottle. Model 130R1401, capacity 2 CFM free air, pressures to 3000 PSI. Weighs 79 pounds. Provides maximum protection and pays for itself in a short time. WRITE FOR COMPLETE INFORMATION.
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FIRE and POLICE UNIFORMS
SHIRTS
BADGES
CAPS
ACCESSORIES
RUSSELL UNIFORM
NEW YORK

RUSSELL UNIFORM CO.
192 Lexington Ave.,
New York 16, N. Y.
Please send free catalog checked below.
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TWO FIRE FILMS

produced by

The Exploratory Committee

of the F.D.I.C.

on the Application of Water in Fire Fighting

USING WATER WISELY..... $169.50

MASTER SPRAY STREAM PROBLEMS 154.50

Or in combination..... 291.60

Both films are 16mm sound & Kodachrome—

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STEVE SMITH PICTURES

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BE SAFE

Reduce injuries, ruptured hose, pump and gauge damage with the brand new A & W Pump Pressure Pocket Computor. Fast, automatic, accurate calculations to obtain efficient fire streams. Completely calculates all 1½" and 2½" single and double lays up to 1500—all relay lays up to 7000 with step by step instructions. Constant charts for 1½, 2½ master lines, fog, special nozzles, water thief, foam (mechanical and chemical) formulas, conversation factors, cautions, plus other useful pumping information. Write A & W Specialty Co., 3717 Midland Ave., Syracuse 7, N. Y. Please send one ..... $3.00/two ..... $5.00 A & W pocket computor with instructions booklet.

FOR SALE

One 1931 Mack 1000 G.P.M. Triple combination pumper 100 Gal. booster tank. Model A.P. Type 19. Still in active service.

TOWNSHIP OF MORRIS
18 Mendham Rd.
Morristown, N. J.

! FIRE HOSE SALE !

UNUSED SURPLUS

1½"x50' 8J CRL fire hose, unused but soiled	$ .26 ft. cpld.
2½"x50' 8J CRL fire hose, unused but soiled	$ .40 ft. cpld.

UNUSED & CLEAN FACTORY PACKED, GUARANTEED PERFECT

1½"x50' 8J CRL fire hose.....	$ .40 ft. cpld.
2½"x10' hard suction hose.....	14.50 lg. cpld.
¾" or 1"x50' Booster hose.....	.30 ft. cpld.
4"x16' DJ soft suction hose, w/4½", cplgs. male & long handle female.....	16.50 lg. cpld.
Mechanical foam playpipes, Phomaire, less pickup tube (Worth $45.00)	8.00 ea.
Mechanical foam playpipes, Phomaire, complete with pickup tube (Worth $55.00). Our price only.....	15.00 ea.
2½" Siamese connections, plain, 1 male and 2 females, NST	4.75 ea.
2½" Brass double female connections, NST	5.95 ea.
1½"x13" Plain hose nozzles, brass IPT	1.25 ea.
2½"x15" Plain hose nozzles, brass NST	4.25 ea.
Fire Brooms, steel bristle, standard size	1.50 ea.
1½" Fog nozzles, brass, 3 position, leading brands, NST or IPT.....	29.50 ea.

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TOWSON HOSE & RUBBER CO.
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Baltimore 4, Md.
Phone VAlley 3-1672

SAVE $5,000.00
ON YOUR SAFETY EQUIPMENT

SCOTT AIR PACKS—Used govt. surplus equipment, but in excellent condition as follows.

Quantity	Kind	Unit Price
33	15 min. with case.....	$85.00
2	15 min. without case.....	75.00
6	30 min. with case.....	115.00
5	30 min. without case.....	105.00

Sale price for entire lot..... $4,000.00
List price new would be over..... $8,000.00

M.S.A. PNEOLATORS—(Resuscitators)—Condition like new. Govt. surplus.
5 units available at $300.00 each.
List price new was $420.00 each.

M.S.A. ALL PURPOSE GAS MASKS—Used, but in good condition and with new canisters. Govt. surplus.
9 units available at $30.00 each.

FIRE EXTINGUISHERS—Used, but in good condition. Govt. surplus.
7 Fyr Fyter "Karbaloy" 2½ gal. stainless steel at $15.00 each.
1 Randolph 2½ gal. soda-acid at $10.00.
Entire lot, $100.00.

All prices are f.o.b. Newport, Indiana. Shipments made C.O.D. subject to your inspection and acceptance at Express Office. Address all orders and correspondence to

INDUSTRIAL COATINGS & EQUIPMENT CO.
317 JUDGE BUILDING
SALT LAKE CITY, UTAH

DEEP SOUTH SALESMAN WANTED

To sell nationally known line of apparatus and equipment. Complete line of apparatus in field for customer inspection and examination. New apparatus being placed steadily. Our salesmen know of this ad. Write, giving experience and background. Box 180, c/o Fire Engineering, 24 West 40th St., New York 18, New York.

Custom-Built SQUAD CARS
OUR SPECIALTY

You Furnish the Car to Be Reworked—
Or We Will.

Also

New York State Distributor
HENNEY-PACKARD AMBULANCES

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See Us for New and Used Cars

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COACH AND EQUIPMENT SALES CORPORATION
2 Main Street Penn Yan, N. Y.

2½" FIRE HOSE SALE

SPECIAL OFFER

Unused, clean, factory packed 2½"x50' 8J CRL fire hose, leading brands, guaranteed perfect, tested to 300 lbs.

ONLY $.55 Ft. cpld.

TOWSON HOSE & RUBBER CO.
104 West Joppa Road
Baltimore 4, Md.
Phone VAlley 3-1672

NEW, AMAZING

device that holds firmly, 2½ gal. foam and S & A extinguishers while removing and replacing caps. Makes recharging a simple one-man job. Save time and temper by using this new extinguisher holder! Used successfully by firemen in military installations, industrial plants and in city fire depts. Unconditional money-back guarantee. Order now! $2.00 each or box of 3 for $5.00.
ANDREW H. QUIRK
P. O. Box 1351, Hartford 1, Conn. JA. 8-8223

FOR SALE

750 GPM. Stutz Pumper. Completely rebuilt 1936. Hercules 192 HP. Engine. 100 Gal. booster tank. In service. Contact:

CHIEF ROBERT H. TAYLOR
GUYASUTA FIRE DEPT.
O'HARA TOWNSHIP, PITTSBURGH 38, PA.

MANUFACTURER'S REPRESENTATIVES' ATTENTION

Nationally known manufacturer of top quality rubber hose has open territories in all states. Big opportunity to make money full time or spare time selling our complete line of Fire, Chemical and Suction Hose to towns and cities. Liberal commissions paid.

Send full information including lines and territories now travelled.

Address Box 185, FIRE ENGINEERING, 24 West 40th St., New York 18, New York.

FOR SALE

1938—Diamond T Fire Truck. Closed Model, with Factory Rebuilt Hale 500 GPM Pump. Low Mileage. Equipped with 3 Lengths of Hard Suction Hose, Booster Hose, Ladders, Extinguishers, Stretcher, Lights, Siren and Small Tools.
For Information contact
THE GRANT DUKE HOSE CO.
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FOR SALE

One 1924 Ahrens Fox 75 ft. Aerial Truck, with air hoist and hydraulic lock, fully equipped, in good running condition.

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Every issue of FIRE ENGINEERING has something in it that you want to keep for future reference. If you have one of our standard handy binders, you will have every article at your fingertips and a complete yearly index of everything we have published. The binder holds 24 issues and two yearly indexes.

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LEONARD ROTARY GEAR PUMP

A new, better, APPARATUS PUMP!

Rhode Island Forest Service is pleased with 15 Leonard Pumps now in service. They deliver 150 GPM at 150 lbs. Specify LEONARD on new apparatus or replacement. Write for data.

National Distributor

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WHY *Janesville* IS FIRST

CHECK THE FEATURES . . .
that firemen want and get in JANESVILLE turn out suits.

Detachable wool or flannel lining — you get DOUBLE PROTECTION against searing heat...freezing cold . . . rugged wear. And they are easily changed to fit working conditions.

Examine the other details of our fire coats and you'll see why the label JANESVILLE stands for quality, protection, comfort and lasting service.

- Finest Material • Rugged Construction
- Custom-built . . . coats available in any length wanted. Also sleeve lengths.

Janesville APPAREL CO.
JANESVILLE, WISCONSIN

receiver but nothing apparently better solves this problem for the phone user than "Telehold." The device automatically adjusts itself to all shoulder sizes and slopes, and may be attached to the phone instrument without the use of tools.

It is manufactured by the American Homecraft Co., 3714 No. Milwaukee Ave., Chicago 41, Ill.

ADT Advances MacDonald and Smith

James A. MacDonald has been elevated from vice president to first vice president, and A. Earl Smith has been elected vice president in charge of sales of the American District Telegraph Company, New York, N. Y.

J. A. MacDonald

A. Earl Smith

Mr. MacDonald has been a member of the ADT organization since 1919. He was made secretary and auditor in 1943 and elected a vice president in 1951. In 1953 he was elected to the board of directors.

Mr. Smith was named general commercial manager of the organization in 1946, and since that time has been in charge of the sale of ADT fire and burglary protection services throughout the country. He is a veteran of both world wars, and during World War II was a colonel in the U. S. Air Force. He has been in the electric protection business since 1920.

Darley Offers New Literature

W. S. Darley & Company, Chicago 12, Ill. has issued a new catalog for fire fighting apparatus and equipment. The book describes 1,100 items in 100 pages and contains 750 illustrations.

Martins Ferry Dedicates Three New Fire Stations

Dedication exercises were held October 30-31 for three new fire stations in the City of Martins Ferry, Ohio.

The ceremonies were held at the new Ladder Company—Emergency Squad Station and included a parade of fire department equipment, flag raising by the Boy Scouts, a welcoming address by Martins Ferry Mayor Dale Fulton and introductions of committees by Leon McGlumphy, Service Director, and Fire Chief Wayne Troy. Also there were addresses by Charles Yoho, Stanley M. Kostohis, president, American Association of Firemen; S. L. Foster, president, Ohio State Firemen's Association and Charles R. Scott, Ohio State Fire Marshal.

The new fire stations house Alert Engine Company and Vigilant Engine Company, in addition to the Emergency-Squad Ladder Company.

PORT WASHINGTON
FIRE DEPT.

Get
to the fire safely

with this new license plate sign that *stays reflective, day or night!*

These durable, trouble-free "Firefly" signs are heavy aluminum plate with reflective "scotchlited" surface, yet so inexpensive that they should be used on every one of your vehicles.

Available in "Fire Chief," "Asst. Fire Chief," "Fire Company," "Fire District," "Fire Police," "Fire Capt.," "Fire Warden," "Fire Marshal," and in four different shapes. Also scotchlite emblems to apply directly to bumper, etc. See your Dealer, or Write to

PACIFIC REFLEX SIGNS
Box 323, McMinnville, Oregon

The MEMCO AERIAL LADDER is proving to be the solution to the aerial apparatus problem in more and more of the smaller communities throughout the U.S. and Canada each and every day.

Electrically raised and lowered by power from the truck battery—it can be installed on one of your present trucks, or incorporated into a new combination by your fire truck manufacturer.

For details write

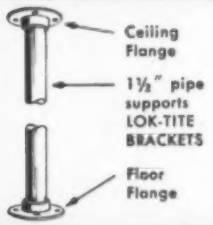
MEMCO AERIAL LADDER CO.
1007 N. W. 36th Street
Oklahoma City 3, Okla.

Photo Courtesy Wichita Fire Station No. 1

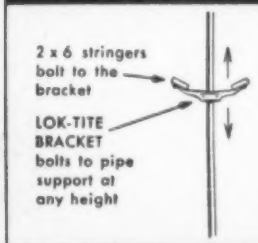
The Solution to Hose Storage Problems

FEATURES

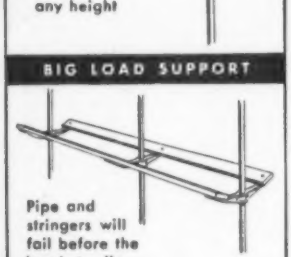
SIMPLE INSTALLATION



EASY ADJUSTMENT



BIG LOAD SUPPORT



Build Your Own Racks With Lok-Tite Brackets

MIGHTY few station houses have all the room they need for good housekeeping. Lok-Tite brackets help solve the hose storage problem by allowing ample ventilation and access in limited storage space.

Build your own racks with new or used materials. Design your own storage to take full advantage of the space available. Have ample room for fittings inspection and ventilation.

Lok-Tite brackets, light weight aluminum alloy, designed for strength and easy installation.

$3.65 F.O.B. Wichita

W-B MANUFACTURING COMPANY

157 NORTH WACO STREET **WICHITA, KANSAS**

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DECEMBER, 1954

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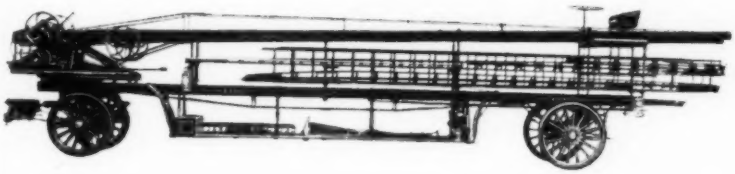
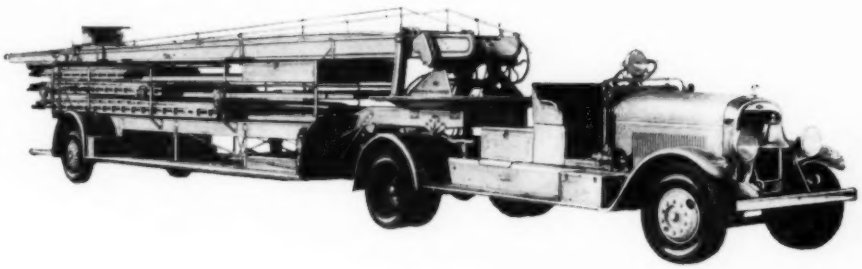


1912

85′ Pirsch Three-Horse Hitch Aerial Ladder Truck.



1931

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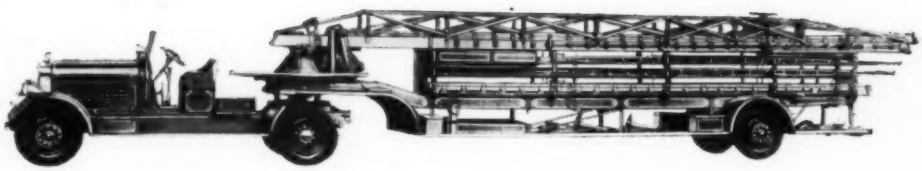
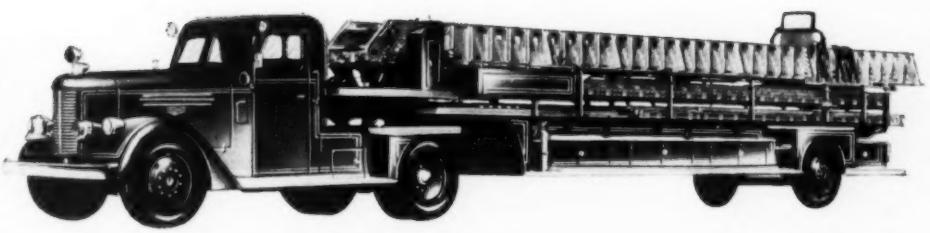


1934

100′ Pirsch Aerial Ladder Truck. America's first 100′ Aerial and America's first All-Metal Aerial Ladder.

1954

100′ Pirsch Aerial Ladder Truck with latest Pirsch built aluminum alloy main and ground ladders, and Pirsch built two-door cab, also other modern features.



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FWD SPECIAL "500" Fire Engine *discharges 500 gallons per minute through a two-stage, series-parallel centrifugal pump with positive displacement rotary-type priming pump and by-pass relief valve.*

FWD "SPECIAL 500" FIRE ENGINE

FIRE STRIKES ANYWHERE. It is just as costly in *your* community as in any big-city blaze! The manufacturers of world-famous FWD Fire Engines knew what was needed, so they designed the SPECIAL "500"—real Four Wheel Drive fire protection for suburb and rural districts—*at ordinary commercial rear-wheel-drive prices!*

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